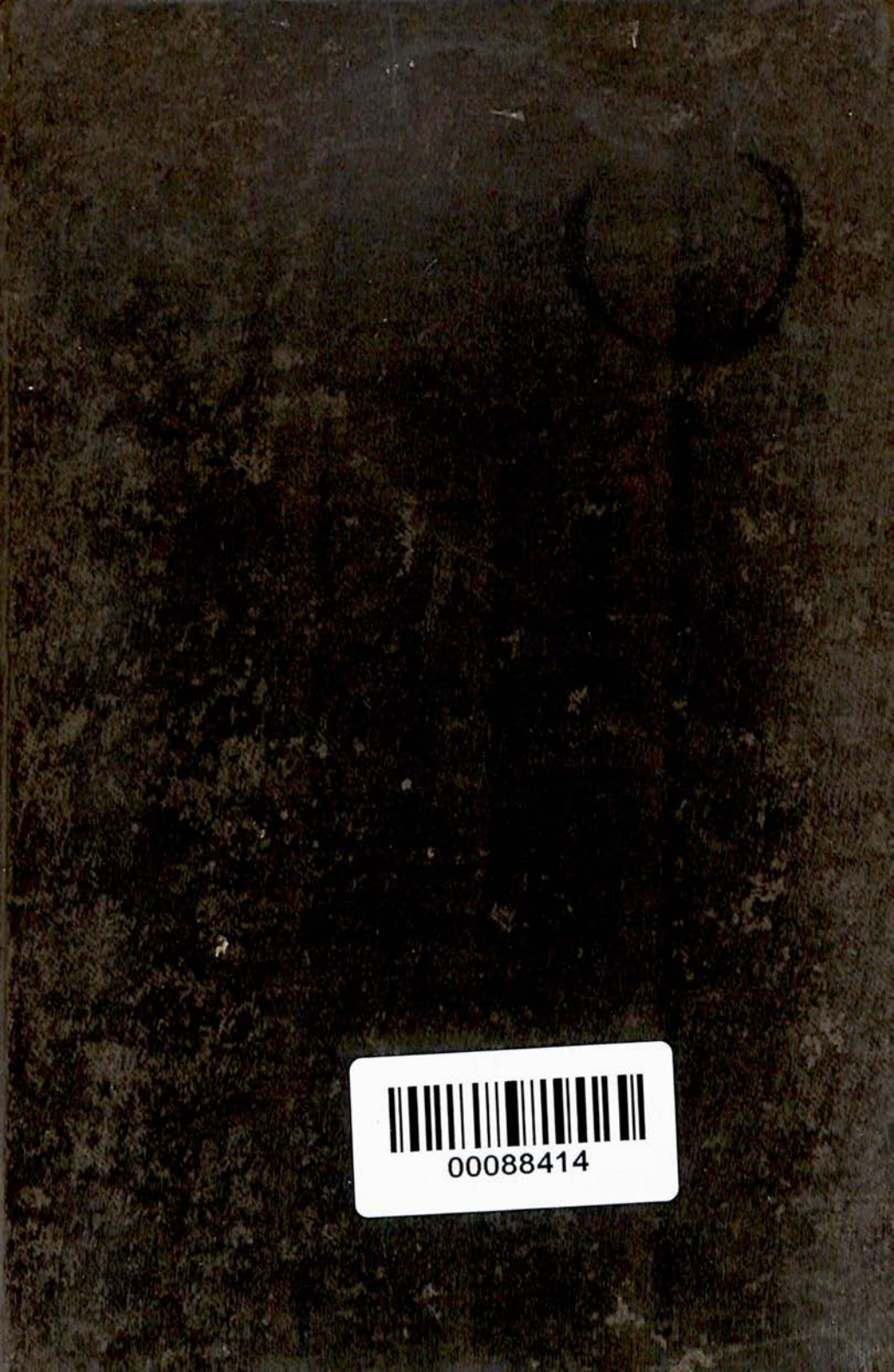

00088414

BOMBAY BRANCH

OF THE

ROYAL ASIATIC SOCIETY.

TOWN HALL, BOMBAY.

Digitized with financial assistance from the
Government of Maharashtra
on 02 July, 2018

THE "BOUTIQUES" CAVERNS, SARK.

View looking outwards from the mouth of the principal cavern across the little Russel.

THE

CHANNEL ISLANDS.

BY

DAVID THOMAS ANSTED,
M.A., F.R.S., etc.,
Late Fellow of Jesus College, Cambridge,

AND

ROBERT GORDON LATHAM, M.A., M.D., F.R.S., etc.
Late Fellow of King's College, Cambridge.

With Illustrations drawn by

PAUL J. NAFTEL,

Member of the London Society of Painters in Water Colours.

EE414

THE 'CASQUETS' ROCKS AND LIGHT-HOUSE.

LONDON:
WM. H. ALLEN & CO., 13, WATERLOO PLACE, S.W.
MDCCCLXII.

00088414

LEWIS AND SON, PRINTERS, SWAN BUILDINGS, MOORGATE STREET.

PREFACE.

More than four years' residence in Guernsey,—a central position, where frequent opportunities are afforded of visiting Jersey, Alderney, Sark and Herm,—and an intimate acquaintance with various Residents in the Channel Islands and Visitors interested in literary and scientific pursuits, have seemed to the Writer to justify him in undertaking the present work. He may be regarded as the general Editor as well as one of the Authors.

That the Channel Islands, as a group, deserve and require a monograph, will, it is believed, be admitted without a question. That no treatise, combining a general description of them with a careful account of their Natural History, Ethnology and Archæology, has yet been published, is certain. It is for the public to decide how far the present work is sufficient and satisfactory.

The work is divided into four parts. For the first part—a Physical and Descriptive account of the Islands and their Climate—the Editor is alone responsible. With regard to the second part—general Natural History—the case is different. The Editor not being conversant with the details of Botany and Zoology, has sought and obtained the assistance of many friends and acquaintances, residents and visitors, all zealous and able Naturalists, who have communicated the results of their investigations in the most frank and friendly manner. A list of the names of these, and of others to whom the Authors are indebted for information, is published at the end of the preface, and an acknowledgment of the special services of each will be found in the text. The magnitude and importance of the assistance obtained in technical Botany and Zoology will be at once seen by examining the lists of species in Chapters VIII. and IX.

The account of the Geology of the Islands is entirely by the Editor.

The third part of the book, on the History, Archæology, and Language of the Channel Islands is the exclusive work of Dr. R. G. Latham. He believes that in the doctrine he has advanced concerning the comparative unimportance of the Norse, and the comparative importance of certain other elements of the early history of

the Islands, he has suggested a series of obscure and neglected facts which, when recognised, will largely influence the opinion of future historians of Normandy and the southern parts of England, as well as of the Channel Islands. He offers this as his excuse for the insertion of a certain amount of matter and certain negative conclusions, which might otherwise seem to be irrelevant.

For the later history he has drawn freely upon various well known books. Among these, he would more especially indicate the writings of Falle, Duncan, and Dr. Hoskins. For the antiquarian details Mr. F. C. Lukis, of Guernsey, is the principal authority.

The fourth part of the work and the Appendices have been prepared by the Editor. In the chapter on the Laws and Constitution of the Islands he has to acknowledge important assistance, chiefly from the Bailiff of Guernsey.

The picturesque illustrations must be noticed here, on account of the peculiarly favourable auspices under which they appear. Almost all the drawings were executed on wood from original sketches, taken expressly with a view to illustrate points selected by the Editor. Two artists have combined to give value to this department. Of PAUL J. NAFTEL, the name alone will be sufficient

to satisfy every reader who appreciates art that the most conscientious accuracy has been obtained, as well as the most exquisite taste in drawing. Of Mr. Peter Le Lievre, whose pictures are only known to those who have visited his studio in Guernsey, it may safely be said that his success in art is not less remarkable than his familiarity with the details of Natural History. Ample proof of both will be found in the following pages.

It rarely falls to the lot of an Author to have his ideas and wishes with regard to illustration so completely carried out as has been the case in the volume now published. It is with singular satisfaction that the Editor finds his name associated on the title page with the names of friends whose assistance has tended to give a character of completeness to the work not otherwise attainable.

It is right to state, that the execution of the various drawings has been almost entirely a labour of love.

D. T. ANSTED.

Impington Hall, Cambridge,
November, 1862.

LIST OF CONTRIBUTORS.

The following List contains the names, placed in alphabetical order, of those persons from whom the Authors have received information made use of in the present volume.

Joshua Alder, Esq. Newcastle-on-Tyne.
Mr. Arnold . . . Guernsey.
Dr. J. S. Bowerbank, F.R.S. London.
The Rev. T. Brĉhaut . Guernsey.
George Busk, Esq., F.R.S. London.
P. S. Carey, Esq. . . Guernsey.
H. O. Carré, Esq. . . Guernsey.
The Rev. Col. W. Collings Sark.
Mrs. W. Collings . . Sark.
J. T. Gallienne, Esq. . Guernsey.
Mrs. Gaudion . . . Alderney.
Dr. Hilton . . . Cuckfield.
Dr. Hoskins . . . Guernsey.
Peter Jeremie, Esq. . . Guernsey.
F. P. Johnson, Esq. . . Jersey.
Charles Larbalestier, Esq. Jersey.
Col. Le Couteur, F.R.S. . Jersey.
Mrs. Le Couteur . . Jersey.
P. Le Lievre, Esq. . . Guernsey.
The Misses Le Lievre . Guernsey.
W. H. Le Mesurier, Esq. . Guernsey.
F. C. Lukis, Esq. . . Guernsey.
Dr. F. Lukis . . . Guernsey.
G. F. Lyster, Esq. . . Liverpool.
Dr. T. Mansell . . . Guernsey.
James May, Esq. . . Alderney.
George Metivier, Esq. . Guernsey.
Mr. T. Nant . . . Guernsey.
Mr. Piquet . . . Jersey.
The Rev. C. Robinson . Alderney.
T. G. Ryland, Esq. . . Warrington
Major Smith, R.M. . . Portsea.
Dr. George Wallich . . London.
Miss White . . . Jersey.
Miss Wilkinson . . Guernsey.
Mr. G. Wolsey . . . Guernsey.

ADDENDA ET CORRIGENDA.

19, line 3 from bottom, and afterwards, for *Clonque* read *Clanque.*

48, line 1 of foot note, for *Moee* read *Moie.*

58, line 1, for *puits* read *puit.*

96, line 9, for *Lister* read *Lyster.*

97, line 2 from bottom, and afterwards, for *Mont Orgeuil* read *Mont Orgueil.*

100, *dele* the foot note.

101, in foot note, for *XI., on Modern Geology*, read *X., on Geology.*

134, in table, mean of ozone in spring, for ·3, read 3·3.

156, line 4, dele *the.*

194, for Orthosira *orichacea* read O. *orichalcea.*

241, line 2, for *produces* read *produce.*

271, line 3 from bottom, for Mont *Madoc* read Mont *Mado.*

297, to the list of non-metallic minerals, add the following, on the authority of Mr. Lukis :—graphite, satin spar, garnet, spodumene, analcime, chabasite, mesotype, stilbite, pyroxene, and diallage.

303, line 9, dele *as this.*

372, last line, for *a* read *the.*

391, line 8 from bottom, after "an address" add "was voted."

405, in this page, the paragraph in small type should be a foot note to the last word of the second paragraph, and marked accordingly.

451, ine 25, for BAPTIST read BAPTISTE.

502, line 2 from bottom, in foot note, for *granite* read *granites.*

512, line 7, dele *also.*

NOTE.—In the account of foraminifera dredged off Guernsey, given in pages 295-6, it should have been stated that the species, determined by Mr. Rupert Jones, have been identified as of eocene date, and appear to correspond with those in a small eocene deposit on the coast of Britany. They are believed by Mr. Gwynn Jeffreys to exist *in situ*, and not to have been drifted, but they have not since been looked for in the same spot.

CONTENTS.

PART THE FIRST.

Physical Geography.

CHAPTER I.

THE ENGLISH CHANNEL AND THE CHANNEL ISLANDS.

Page

Geographical position of the islands.—Absence of harbours on the French coast.—Area enclosing the islands.—The various groups.—The sea-bottom around them.—Changes undergone to produce them.—Course of the tidal wave.—The islands rich in natural history and scenery.—Interest attaching to them.—Time when they should be visited.—Importance as military stations.—Absence of Celtic element.—Approaching change.—Names and areas of the rocky groups.—Lighthouses on the French coast.—Chasse Marées - - - - - - - - - - 1

CHAPTER II.

ALDERNEY, ORTACH, AND THE CASQUETS.

Geographical position of Alderney.—Its form, dimensions, and elevation.—Survey of the coast.—The Harbour.—Original plan and subsequent modifications.—Fort Touraille.—The sand-stone quarries.—Coast scenery.—The cliffs.—The forts.—The hanging rock.—The town of St. Anne, and its church.—*Les Rochers*.—Burhou Islands.—Ortach.—The 'Casquets' Rocks, and their light-houses. Banks near the Casquets - - - - - - - 18

CHAPTER III.

THE ISLAND AND COAST OF GUERNSEY.

Page

Position of Guernsey.—Its area and elevation.—Surrounding rocks.—The 'Grunes'—Belgrave Bay.—Town of St. Peter's Port.—The college.—The church.—The old harbour.—The present harbour and proposed completion.—Castle Cornet.—St. Sampson's and its harbour.—Ivy Castle.—Coast scenery.—Les Terres.—Fermain Bay and Bon Air.—Jerbourg, and its cavern.—The Doyle column.—Moulin Huet.—Icart.—Petit Bot.—Moye Point.—The Corbiére.—Creux Mahie.—The Hanois rock and its lighthouse.—Pleinmont.—Rocquaine.—Liliou.—Grande Rocque.—Grande Havre.—L'Ancresse.—The Vale.—Vale Castle.—The valleys and glens.—Water lanes.—Gardens.—Churches.—Houses.—Military defences.—Roads - - - - 36

CHAPTER IV.

ISLANDS AND ROCKS NEAR GUERNSEY.

The Little Russel.—Herm.—Coast scenery.—Creux.—Land slips.—Shell beach.—Farms.—Copper ore.—Granite.—Game.—Water.—Jethou.—Rocks and islands near Jethou.—Crevichon.—The Ferriéres and Sardriere.

Sark.—Position and dimensions.—Adjacent islands.—Coast scenery.—Le Tas.—The Pot.—D'Ixcart Bay and Valley.—Creux du Derrible.—Creux Harbour.—Baker's Valley.—Grève de la Ville and Chapelle Mauve.—Boutiques Caverns.—The Autelets.—Gouliot Rock and caverns.—Havre Gosselin.—Little Sark.—Brechou.—The Coupée.—The mines.—The Seigneurie.—Supply of water.—Supply of food - - - - - 60

CHAPTER V.

THE ISLAND OF JERSEY AND THE ADJACENT ROCKS.

Position of Jersey.—Its dimensions and elevation.—Scenery of the coast.—Scenery of the interior.—View from the sea.—St. Helier's, its harbour, pier and docks.—Fort Regent.—Samares Bay.—St. Clement's Bay,—La Motte.—Pontac.—Grouville Bay.—Mont Orgueil.—Crête Point.—St. Catherine's.—La

Page

Coupe.—Saie Harbour.—The Douet de la Mer.—Rozel.—The Sauchet.—Bouley Bay.—Giffard's Bay and Bonne Nuit.—Les Mouriers waterfall.—Crabbe.—Grève de Lecq.—Grève au Lançon.—Plémont.—Caverns.—Cape Grosnez.—Pinnacle rock.—L'Etac.—St. Ouen's Bay.—The Corbiéres.—Moye Point.—Creux.—Beau Port.—St. Brelade's.—St. Aubin's and its Bay.—Elizabeth Castle and the Hermitage Rock.—Streams.—Valleys.—Interior of Jersey.—Table lands.—Churches.—Manor House of St. Ouen.—Prince's tower - 91

CHAPTER VI.

THE CHAUSSEY ARCHIPELAGO AND THE MINQUIERS.

Plateau des Minquiers.—The Maitresse Ile.—Les Faucheurs.—Les Douvres.—Plateau de Barnouic.—The Chaussey islands.—Appearance from Granville.—The Grande Ile.—Cultivation.—The spring of fresh water.—Appearance at low tide.—Abundance of *Zostera marina*.—Multitude of rocks.—Fishing.—Stone cutting.—Barilla making.—Population of the islands.—M. de Quatrefages.—Light-house.—Modern fortifications - 122

CHAPTER VII.

CLIMATE AND METEOROLOGY OF THE CHANNEL ISLANDS, AND THEIR SANITARY CONDITION.

Guernsey the typical island.—Elements of the Guernsey climate.—Mean temperature of the year—and of the seasons.—Comparison of range with Greenwich.—Smallness of maxima and minima of temperature.—Ripening of fruit.—Variations of the barometer.—Force and direction of winds.—Rain-fall.—Cloud, snow, and hail.—Moisture and fog.—Electric state of the air.—Ozone.—Climate of Jersey.—Comparison with Guernsey.—Climate of Alderney—and Sark.—General conditions of climate in the islands.—Occasional phenomena.—Possible alteration of climate.—*Sanitary condition.* Jersey.—Guernsey.—Effect of change of air in passing from one island to another - - - 132

PART THE SECOND.

Natural History.

CHAPTER VIII.

THE VEGETABLE PRODUCTIONS NATURAL TO THE CHANNEL ISLANDS.

Page

Botany of the islands.—References.—Trees and shrubs.—Absence of timber.—The furze and bramble.—Flowering plants.—Richness of the islands in wild flowers.—Rare wild flowers.—Characteristic groups.—Sea-side plants.—Water lanes.—Sedges and marsh plants.—Grasses.—Ferns.—Rare and beautiful species of ferns.—The hart's tongue fern.—Equisetaceæ, Characeæ, and Marsiliaceæ.—Mosses and allied plants.—Lichens.—Fungi.—Sea-weeds.—Diatomaceæ.—General summary - - - - 164

CHAPTER IX.

THE ANIMALS LIVING IN THE CHANNEL ISLANDS AND IN THE ADJACENT SEAS.

Mammalia.—Birds.—Reptiles.—Fishes.—Cephalopoda.—Marine univalves and multivalves.—Land and fresh water univalves.—Sea-slugs.—Bivalve shells.—Tunicated molluscs.—Polyzoa.—Beetles.—Orthoptera, &c.—Butterflies and moths.—Other insects.—Spiders.—Cirrhipedia.—Crustacea.—Annelida and Turbellaria.—Radiata.—Acalephæ.—Zoophytes.—Foraminifera.—Sponges.—General summary - - - - - - - 200

CHAPTER X.

GEOLOGY AND MINERALOGY OF THE CHANNEL ISLANDS.—ANCIENT FORMATIONS.

The Channel Islands an instructive geological locality.—Metamorphic rocks.—Their history.—Syenitic and hornblendic rocks.—Intrusive veins.—Result of theoretical changes.—Elevation axis of Guernsey.—Granite and gneiss.—Herm and its veins.—Sark and its veins.—Alderney.—Sand-stone rock.—Its position.—Jersey.—Its clay slate and shale.—Syenites.—Cherts and hornstones.—Older conglomerate.—Newer conglomerate.—Frequent upheavals - - - - - - - - - 247

CHAPTER XI.

GEOLOGY *continued.*—MODERN DESTRUCTION AND RENOVATION.

Page

Modern causes of change.—Earthquakes.—Raised beaches.—Submerged peat.—Corban.—Destruction of the coast line.—Caverns.—Pierced and detached rocks.—Creux.—Rotten granite and sand.—Jersey conglomerate.—Alderney boulders.—Flints in conglomerate.—Blown sands.—Jersey and Herm.—Foraminiferous rock near Guernsey.—List of minerals - - - - 276

CHAPTER XII.

THE FAUNA AND FLORA OF THE CHANNEL ISLANDS, CONSIDERED IN REFERENCE TO THEIR PHYSICAL GEOGRAPHY AND GEOLOGY.

Imperfection of the natural history lists.—Value of an insular flora and fauna.—Effects of insulation in the development of permanent varieties.—Richness of the Channel Islands in species.—The species continental.—Comparison of bulk of individuals.—Overlapping zones of faunas and floras.—Assumed recent depression of the islands considered.—Destroying action of the sea unusually great in the islands - - - - - - 298

PART THE THIRD.

Civil History.

CHAPTER XIII.

HISTORY.—PAGAN AND LEGENDARY PERIOD.

Relations of the islands with England and France.—What is a Norman?—Early tribes and their names.—The Saxon shore.—The Armoricans.—Migrations of the Alani.—First introduction of Christianity.—St. Sampson.—St. Helerius.—The islands connected with Britany rather than with Normandy - - - 309

CHAPTER XIV.

EARLY HISTORY *continued*.—GERMAN PERIOD.

Page

Inquiry into the meaning of the name Norman.—How Normandy was Germanised.—Absence of historical evidence for the early history.—Icelandic Sagas.—The Saxon chronicle.—Traces of the Northmen exist wherever they are known to have been.—Gothic origin of the Dukes of Normandy.—Settlement of the Jutes.—The Chattuarii.—The Danes.—The Leti.—General conclusion - 328

CHAPTER XV.

LATER HISTORY, FROM THE NORMAN CONQUEST TO THE BEGINNING OF THE CIVIL WARS.

The history of the islands till the reign of John.—The supposed 'Constitution of John.'—Separation from Normandy not complete.—Ecclesiastical government.—Privilege of neutrality secured.—Naval battle with the Spaniards during the reign of Edward the Third.—Evan of Wales.—Jersey held by the French in the reign of Henry the Fifth.—The Reformation in the islands.—Transfer to English dioceses.—Calvinistic tendency of the island religion.—The discipline of the Church of England introduced during the reign of James the First.—Heylin's account of the islands shortly before the Civil War.—Persecutions under Mary.—Prynne's account of Mont Orgueil - - - - - - 353

CHAPTER XVI.

LATER HISTORY *continued*.—PERIOD OF THE CIVIL WAR.

Governors of the islands under Charles the First.—Order of the Parliament to seize the Governor of Guernsey.—Seizure by the Governor of the three commissioners at Guernsey.—Landing of the Prince of Wales in Jersey.—The Prince means to depart—is prevented.—Attack by the fleet.—Defence of Castle Cornet in Guernsey.—Distress of the islanders.—Address to Richard Cromwell.—Accession of Charles the Second.—Condition of the islands during the reign of James the Second - - - - - 373

CHAPTER XVII.

MODERN HISTORY.—FROM THE ACCESSION OF WILLIAM THE THIRD TO THE PRESENT TIME.

Page

Alarm of French invasion.—Abolition of the privilege of neutrality.—Privateering.—Attacks on Jersey by the French.—Custom-houses introduced.—Appeal of the merchants.—Irish mutiny in Guernsey.—Introduction of dissent.—Recent events.—Leasing of Herm under George the Third.—History of Sark.—Its capture and re-capture.—Settlement from Jersey.—History of the islands since the peace of 1814 395

CHAPTER XVIII.

ANTIQUITIES AND ARCHÆOLOGY.

The islands originally Iberic or Keltic.—Druidic monuments.—Cromlechs.—Great cromleeh at St. Helier's.—Guernsey cromleeh at L'Ancresse.—Ancient pottery.—Tumuli.—Contents of the cromlechs.—Druidism, its nature as a system.—Only a portion of the old Keltic religion.—Menhirs and their meaning.—Neo-Druidism.—Island orgies.—Doubtful locality of the island *Seni*.—Keltic origin of some of the names connected with cromlechs.—Paucity of Roman remains in the islands.—Ecclesiastical architecture.—St. Apolline.—St. Brelade's - - - - 408

CHAPTER XIX.

LANGUAGE AND LITERATURE.

Cultivation of the French language in England after the Norman Conquest.—Limitation of French to the country north of the Loire.—R. Wace, the earliest island poet.—The Roman de Rou.—Wace's language the language of Normandy.—Later dialects.—Dialect of Sark.—Specimen of Jersey dialect.—Guernsey specimens.—Norman-French of the law courts.—Specimen of Picard dialect.—Names of the islands.—The grand Sarazin and the Saragouzais.—Tale of Hambey.—Note on a volcano - - 431

PART THE FOURTH.

Economics and Trade.

CHAPTER XX.

AGRICULTURE.

Page

Published accounts.—*Soil and sub-soil.*—Nature of sub-soil.—Composition of hornblendic rocks.—Variety of rocks in the islands.—Rapid disintegration of the rock.—Quality of the soil in the different islands.—The Quenvais in Jersey.—Incursions of the sea.—Soil generally light.—Poisonous soil in Guernsey.—Soil of Sark, Herm, and Jethou.—Soil not naturally rich.—*Manure.*—Carelessness of the farmers.—Value of the sea-weed.—*Water supply.*—Sources of supply.—Lowering of the water in the springs.—General abundance of water.—Drainage.—Irrigation.—*Holdings of land and enclosures.*—*Crops.*—Farming processes.—Produce of land.—Rent.—Treatment of land.—*Stock.*—Breed of cattle.—Peculiarity of colour in the fat and butter.—Sheep.—Horses.—Poultry - - - - - 459

CHAPTER XXI.

HORTICULTURE.

Fruit-Garden. General results of cultivation.—Early ripening of fruit under glass.—The Vine.—Kinds of grapes chiefly cultivated.—Peach.—Apricot.—Plum.—Cherry.—Fig.—Mulberry.—Medlar.—Filberd.—Orange.—Apple.—Varieties of the apple cultivated.—Pear.—Important growth of the Chaumontel Pear.—Large size of the fruit.—Cordon training of fruit trees by Mr. Brehaut - - - - - - -

Shrubbery and Flower Garden. List of hardy, half-hardy, and tender shrubs grown in the islands, but not in the open air in England.—Growth of foreign trees.—Rhododendrons.—Camellias.—Bulbous plants.—The Gladiolus and Ixia.—Guernsey lily.—Fuchsias. Hydrangeas, and allied shrubs.—Mexican aloe.—Yuccas.—Rare grasses - - - - - - - 483

CHAPTER XXII.

TRADE, COMMERCE, AND MANUFACTURES.

Page

Shipping of Jersey and Guernsey.—Stone trade of Guernsey.—Quality of the stone.—Statistics of the trade.—Jersey and Herm syenite.—Chaussey granite.—Vegetables and fruit.—Large export of potatoes.—Trade in pears, apples, and grapes.—Butter.—Fish and shell fish.—Large oyster trade.—Cattle, pigs, and poultry. Imports of meat.—Kelp and iodine.—Manufacture of iodine in Guernsey.—Vraicking.—Arrowroot.—Han - - - - 501

CHAPTER XXIII.

CONSTITUTION AND LAWS.

The islands divided into two groups.—Great differences in law and constitution.—Origin of the 'States."—The suffrage.—Parochial officers.—Public officers.—Lieutenant Governor.—Bailiff.—Jurats.—Royal court.—The States of Jersey.—Elective and Deliberative States of Guernsey.—Standing committees of the States.—*Chef Plaids* of Guernsey.—Law courts.—Origin of the laws.—Trial by jury in Jersey.—The courts of Guernsey.—The court of Alderney.—Court at Sark.—Division and succession of property. Liability to arrest.—Appeal of Ha! Ro!—Game laws.—'Rents' and holdings of land.—Descent of real property.—All island causes tried in the islands.—Ecclesiastical arrangements.—Effect of the constitution.—Legal education - - - - - 518

CHAPTER XXIV.

MANNERS AND CUSTOMS OF THE INHABITANTS, AND PRINCIPAL PUBLIC INSTITUTIONS.

Manners and Customs.—The "lit de fouaille."—Manorial courts.—Houses and churches.—Their architectural style.—Costumes.——Independent manners.—Parsimonious habits.—Cliques.—Divisions of society.—Hospitality.—Inducements to reside in the islands.—*Militia.*—Extent of the force.—Law regarding strangers.—*Educational institutions.*—Colleges in Jersey and Guernsey.—Petite école.—*Societies and associations.*—Mechanics' Institutes.—Museums.—Agricultural Societies.—Savings' banks.—Charitable institutions.—De la Court fund.—Hospitals.—Church services.—Markets.—Conclusion - - - - - - 545

APPENDICES.

A.

HINTS TO TOURISTS.

Page

Means of communication.—Luggage.—Selection of steamer.—Postal arrangements.—Landing and hotel accommodation.—Porters.—Lodgings.—Public conveyances.—Reading rooms.—Bathing accommodation - - - - - - - - 563

B.

MONEY, WEIGHTS, AND MEASURES.

Money. Circulating medium.—Value of the currency in Jersey and Guernsey, and of the pound sterling in both islands.—The livre tournois and sol.—Bank notes and coins.

Weights. The pound weight in Jersey and Guernsey.—Determination of the Rouen pound.—The Amsterdam pound.—Relative and actual value of the standards.—The smaller divisions of the pound.—The French kilo.

Measures. Linear and square measures.—The vergée.—Liquid measures.—Dry measures.—The cabot, and the denerel, and the quarter. Sark and Alderney measures - - - - 571

C.

STATISTICS.

(1.) Population of the islands and towns.—Large proportion of females in the towns. (2.) Number of Houses in the islands. (3.) Value of life at different ages and in different occupations.—Large number of fishermen and quarrymen in Guernsey (4.) Education. (5.) Miscellaneous statistics. (6.) Revenue and debt of the islands - - - - - - - 578

GENERAL ALPHABETICAL INDEX - - - - - 585

INDEX

OF

ILLUSTRATIONS.

I.

PICTURESQUE ILLUSTRATIONS.

N.B.—Where not otherwise mentioned, these illustrations were sketched from nature expressly for the present work. They have been drawn on wood by the artists named.

Jersey.

		Drawn by	Page
1.	*View of Caverns and a detached Pinnacle Rock, in the Grève au Lançon*	P. J. NAFTEL.	107
2.	*View of the Corbiéres Rocks, from the shore, taken near low water*	P. J. NAFTEL.	112
3.	*View of St. Brelade's Bay and the Rocks beyond, taken from the cliffs near Moye Point, looking East*	P. J. NAFTEL.	121
4.	*View of Elizabeth Castle, from the sands in St. Aubin's Bay, taken near sunset*	P. J. NAFTEL.	157
5.	*Boulders in Saie Harbour. View of the fragments of conglomerate fallen from the cliff and weathered by the air or rolled and rounded by the action of the sea*	P. J. NAFTEL.	275
6.	*'La Pule,' or the Pinnacle Rock, near l'Etac—a nearly detached granitic rock overhanging the sea*	P. J. NAFTEL.	289

		Drawn by	Page
7.	*Picturesque and Grotesque Rocks at Beau Port, near Moye Point*	P. J. Naftel.	307
8.	*View of 'the Hermitage' near Elizabeth Castle, St. Aubin's Bay, seen from the rocks adjacent*	P. J. Naftel.	323
9.	*St. Brelade's Church and the small Chapel adjacent, seen from the road coming down from the Moye Point*	P. J. Naftel.	328
10.	*View of St. Catherine's Bay, with Archirondelle Tower in the middle distance*	P. J. Naftel.	352
11.	*The Castle of Mont Orgueil, seen from the sands of Grouville Bay, with the shipping in Gorey Harbour*	P. J. Naftel.	372
12.	*View of a remarkable Cromlech, formerly on the hill behind the town of St. Helier's, removed on the construction of the Fort*	P. Le Lievre.	411
13.	*View of the Gateway to Mont Orgueil, looking down upon Gorey Harbour and Pier*	P. J. Naftel.	469
14.	*View of Bouley Bay from the rocky cliff called the Etacquerel*	P. J. Naftel.	474
15.	*A Ruined Arch, part of an old castle, near the extremity of Cape Grosnez*	P. J. Naftel.	501
16.	*A Stone Anchor: a Sketch on the Coast, the Martello tower in Grouville Bay in the middle distance*	P. J. Naftel.	511
17.	*View of a Cromlech near Anne Port, behind Mont Orgueil*	P. J. Naftel.	518
18.	*View of St. Mary's Church, seen from the road leading to the waterfall of "Les Mouriers"*	P. J. Naftel.	546

Guernsey.

19.	*View of the House and Grounds of Bon Air, seen from the hill overlooking Fermain Bay*	P. J. Naftel.	45
20.	*The Old Porch of St. Martin's Church*	P. Le Lievre.	57
21.	*Sketch of a Cottage Doorway, with the rounded stone arch usual in the older houses in the island*	P. Le Lievre.	60
22.	*The Islands of Herm, Jethou and Crevichon, and part of Sark, seen across the Russel Channel, from the Vale Castle*	P. J. Naftel.	62
23.	*View of one of the 'Water Lanes' in St. Martin's, characteristic of Guernsey vegetation*	P. J. Naftel.	179
24.	*View of the Gateway of the Vale Castle, now occupied as a barrack*	P. Le Lievre.	202

		Drawn by	Page
25.	*View of the Cliff known as 'La Corbiére,' on the south coast of Guernsey, exhibiting remarkable veins of intrusive rock*	P. J. Naftel.	255
26.	*The Salerie Battéry—a sketch in Belgrave Bay, near the town of St. Peter's Port*	P. Le Lievre.	353
27.	*Castle Cornet in the time of Charles the Second.* A view taken from an old print	P. Le Lievre.	391
28.	*View of the interior of a Cromlech, at the back of the island*	P. Le Lievre.	407
29.	*A Menhir or Druidical Monolith, situated in a field near Rocquaine Bay, the new Hanois Light-house in the distance*	P. J. Naftel.	421
30.	*The Chapel dedicated to St. Apolline—the oldest ecclesiastical building in Guernsey*	P. J. Naftel.	430
31.	*'Cow Lane,' a specimen of the old street architecture in the town of St. Peter's Port*	P. J. Naftel.	457
32.	*The Barbican—a part of Castle Cornet as it appears at the present time*	P. Le Lievre.	479
33.	*View looking down on Moulin Huet Bay, the Doyle column, near Jerbourg, in the distance* . .	P. J. Naftel.	483
34.	*An American Aloe in flower, and a group of trees on the lawn at Valnor, the residence of H. O. Carré, Esq.* From a Photograph by Dr. Mansell . . .	P. J. Naftel.	491
35.	*Quarry near St. Sampson's, with the draining mill and machinery*	P. J. Naftel.	505
36.	*A decorated Niche in the Parish Church of St. Peter's Port*	P. Le Lievre.	540
37.	*The Porch of the Vale Church, a remarkable specimen of island architecture*	P. Le Lievre.	559

Sark:

38.	*View of the 'Boutiques' Caverns, looking outwards towards Guernsey, from the mouth of the principal cave*—Frontispiece	P. J. Naftel.	
39.	*View of the Creux Harbour and Breakwater, looking outward from the Tunnel.* From a Photograph by Dr. Mansell	P. J. Naftel.	77
40.	*View of the Gouliot Rock, the Gouliot Passage, and part of the Island of Brechou, including a part of the Gouliot Caverns, taken from the Havre Gosselin.* From a Photograph by Dr. Mansell .	P. J. Naftel.	81

		Drawn by	Page
41.	*Sketch of an Old Fountain in Sark*	P. Le Lievre.	197
42.	*Sketch of the soft Vein through which the road is cut, communicating from the interior of the island to the Creux Harbour.* From a Photograph by Dr. Mansell	P. J. Naftel.	265
43.	*View of a remarkable Group of detached rocks called the 'Autelets,' near the Port du Moulin.* From a Photograph by Dr. Mansell	P. J. Naftel.	287
44.	*View of the detached rocks called the "Burons," extending eastwards from the hard rock intersected by the Tunnel vein.* From a Photograph by Dr. Mansell	P. J. Naftel.	298

Alderney.

45.	*View of the 'Casquets' Rocks and Light-house, the sketch taken from the deck of a steamer passing outside the Rocks and looking towards Alderney*—Title Page	P. J. Naftel.	
46.	*View of the Cliffs on the south east coast of Alderney, showing remarkable horizontal veins in the porphyry*	P. J. Naftel.	1
47.	*View of 'La Roche Pendante,' a remarkable semi-detached overhanging rock, near Fort Essex, Alderney*	P. J. Naftel.	25
48.	*The Island of Ortach, or 'the Haystack,' the sketch taken from the deck of a steamer approaching Alderney from Guernsey, at a distance of about three miles*	P. J. Naftel.	35
49.	*Geological illustration of the contact of the sandstone and granite on the cliffs of the south east coast of Alderney*	P. J. Naftel.	267

Miscellanea.

50.	*Two 'Chasse Marées,' or French merchant craft, trading in the Channel*	P. Le Lievre.	17
51.	*Wreck of the Salem, as she was seen, towed into Guernsey Harbour in the winter of* 1861-2: *the Douvres Rocks in the distance*	P. Le Lievre.	131
52.	*Group of Wild Flowers characteristic of the field botany of the islands, chiefly of Guernsey* . .	P. Le Lievre.	163

		Drawn by.	Page
53.	*A Group of the common Hart's Tongue fern* (Scolopendrium vulgare)	P. Le Lievre.	184
54.	*A Guernsey Fishing Boat*	P. Le Lievre.	239
55.	*A common Zoophyte* (Plumularia pennatula) *attached to a Barnacle* (Scalpellum vulgare)	P. Le Lievre.	231
56.	*A rare Cray Fish* (Scyllarus arctus) *found in Guernsey*	P. Le Lievre.	234
57.	*A common Sponge* (Grantia compressa) *found on the shores of the Channel Islands*	P. Le Lievre.	243
58.	*A group of Ancient Implements, found in the Channel Islands, drawn from specimens in the Museum of Mr. Lukis*	P. J. Naftel.	327
59.	*A group of Ancient Pottery, found in the Channel Islands, drawn from specimens in the Museum of Mr. Lukis*	P. J. Naftel.	415

II.

MAP, PLANS, AND DIAGRAMS.

1. *North and South Section across the British Channel from Portland to St. Malo, showing the relative position of the Channel Islands and Rocks* 6
2. *East and West Section across the islands and passages, from the 'Casquets' Rocks to Cape La Hague, on the French Coast* . . . 18
3. *Plan of Braye Harbour, Alderney, in its present state, and with the proposed additions to complete it* 22
4. *North and South Section across Guernsey, showing the form of the island in that direction* 36
5. *Plan of Guernsey Harbour in its present state, and with the proposed completion* 41
6. *East and West Section across the Russel Channel from the south coast of Guernsey through Sark to the Burons* 69
7. *North and South Section across Jersey and the adjacent channel as far as the Dirouilles Rocks* 91
8. *Plan of the Harbour of St. Helier's, Jersey, with an outline of the proposed enlargement* 95

Page

9. *East and West Section from outside the 'Minquiers' Rocks, through the Chaussey Archipelago to the French coast at Granville* . . 122
10. *Diagram illustrating the range of the mean annual temperature at Guernsey from* 1843 *to* 1858 *inclusive* 135
11. *Diagram representing the highest and lowest readings of the maximum and minimum Thermometers, throughout the year, at Guernsey, Jersey, and Greenwich respectively* 140
12. *Diagram showing the mean temperature of six years at Guernsey, Jersey, and Greenwich, during each month of the year* . . . 148
13. *Geological section from West to East across the island of Jersey* . 270
14. *Geological diagram.—A Section illustrating the nature and origin of Raised Beaches* 281
15. *Geological diagram.—A Section illustrating the conditions of submerged Peat Deposits* 283
16. MAP *of a portion of the English Channel and French Coast, enclosing the Channel Islands and Rocks, shaded to mark the depth of water and lines of soundings* . . . . . TO FACE THE END.

NOTE.—Of these illustrations, the map was adapted from the latest Admiralty surveys, and the sections (both physical and geological) across various parts of the Channel and Islands were designed and drawn on wood, by Professor Ansted. The plans of harbours were reduced from the working plans by W. H. Le Mesurier, Esq., resident engineer of the harbour works at Guernsey. The diagrams of climate were prepared by Dr. Hoskins, and reduced and drawn on wood by Professor Ansted.

PART THE FIRST.

PHYSICAL GEOGRAPHY.

THE SOUTH-EAST COAST OF ALDERNEY.

THE

CHANNEL ISLANDS.

CHAPTER I.

THE ENGLISH CHANNEL AND THE CHANNEL ISLANDS.

The entrance to the English Channel (la Manche), about a hundred miles wide between the Land's End in Cornwall and the island of Ushant, near Brest, retains that width, with a nearly easterly bearing, for a distance of 100 miles. From Start Point, in Devonshire, the coast of England recedes northwards; and from the opposite land, in Brittany, the French coast recedes southwards rather abruptly, so that the width of the Channel is increased to 150 miles.

At a distance of about fifty miles more to the east, near Mont St. Michel, in Normandy, the French coast abruptly bends round to the north, and continues in that direction for about eighty miles, terminating at Cape la Hague; while the English land, rounding to the south-east somewhat gradually, terminates in Portland Bill, almost exactly opposite. The distance between

France and England, or the width of the Channel between these two points of land, is thus narrowed to little more than fifty miles.

It is in this wide expanse of the Channel, and within the deep recess or elbow of land formed by part of the coasts of Brittany and Normandy, opposite West Bay on the south coast of England, that we find the remarkable group of islands, known collectively as the Channel Islands.

With one exception (the Chaussey Archipelago), all these islands now belong to England, having originally (as indeed the names of the principal islands and rocky groups clearly import) received visits from the northern navigators. When the Normans afterwards united with the Saxon and Danish tribes, who had already occupied England, these islands continued to be held by them. For a long time, this was the case rather by accident than design; but it is many centuries since their position has been felt to be too commanding and important to allow of their being other than English, so long as Great Britain retains its place among the maritime powers of Europe.

Geographically, no doubt, the Channel Islands belong to the continent and to France; and they must be looked upon as outlying possessions of England, although their communications are much more frequent and complete with England than with the continent.

It is not, however, altogether to political reasons that the greater communication with England is due. While on the opposite land, to the north, there are numerous natural harbours, and many important towns and maritime stations, there is not a harbour of the smallest importance along the whole enclosing land of Brittany or Normandy, between Héaux and La Hague, except that of St. Malo; and only two towns (St. Malo and Granville) larger than fishing stations. This part of the French coast of the Channel is only approachable by small vessels and at great risk. There are thus good physical reasons why these

lands should still remain English; and we need not be surprised that, although occasionally visited by the French of the neighbouring shores for business purposes, and sheltering from time to time political refugees,* they are not a common resort of French tourists.

The area of sea including the Channel Islands is thus defined: on the south, it is limited by about seventy miles of the coast of Brittany, from near Paimpoul to Mont St. Michel, in Normandy; on the east, it is bounded by about eighty miles of the Normandy coast, running northwards from Mont St. Michel to Cape la Hague. From this Cape to the Casquets is a line running west about twenty-five miles, which forms the northern boundary of the group, and consists of a rocky ledge, very little of which is sunk twenty fathoms, and which rises at frequent intervals to form groups of rocks and rocky islets. From the Casquets rocks, a line of about sixty-five miles, clearing the rocks off the west coast of Guernsey, and passing outside the 'Roches Douvres,' reaches the coast of Brittany at 'Les Héaux' lighthouse,—completing a nearly regular trapezium, containing an area of about 3000 square miles.

Within this space, the groups of islands, rocks, and shoals, are as follows:—(1.) A northern group, including Alderney, Burhou, and the Casquets, together with several rocky ledges. (2.) A north-central group, including Guernsey, Herm, Sark, and a singular complication of rocks and islets. (3.) A south-central group, including Jersey, three groups of shoals and rocky islands connecting the north of Jersey with France, and some others, running out from the south-east of Jersey also towards France. (4.) A southern group, including the Minquiers, the Chaussey Islands, and some outlying rocks to the far west.

Between these groups, and amongst the islands and rocks that

* The island of Guernsey has been honoured, for some years, as the residence of Victor Hugo, one of the most eminent of the modern French poets and littérateurs. M. Hugo had previously resided for some time in Jersey.

compose them, are numerous narrow and a few wide channels; but, as will be seen by reference to the map at the end of the volume, and the annexed diagram, a large proportion of the sea between Jersey and Alderney and the whole of that between Jersey and France, is less than twenty fathoms deep.

SECTION ACROSS THE CHANNEL FROM PORTLAND TO ST. MALO,
Marking the relative position of the principal islands and rock-groups.

References.

1. Hurd's Deep.
2. Alderney.
3. Guernsey.
4. Jersey.
5. Minquiers.
6. St. Malo.

Length of Section, 130 miles.—Scale of heights, 2000 feet=1 inch.

The sea-bottom around the Channel Islands, could we see it denuded of water, would present a singularly broken and jagged appearance. Pinnacles of granitic and porphyritic rock would be seen to rise out of large rounded masses of similar rock. Banks of sand, some of them extremely steep, would occupy intervals between the groups of pinnacles and the more important hummocks of hard, naked rock. A few comparatively deep valleys would mark the navigable passages, and a considerable degree of regularity would be observable in the width and direction of some of these. But, on the whole, the result of an elevation of thirty fathoms would be, to give a very large and well-defined tract, enclosing all the islands and rocks. This land would not be unlike the western part of Brittany, the valleys being already provided with abundance of sandy soil, the hills jagged and abrupt, and the coast terminated with a cliff going down at once into water of considerable depth.

When Jersey, Guernsey, Alderney, and Sark, are quoted as the Channel Islands, the expression must then be understood with

some reserve. No doubt these are the principal inhabited tracts of land, stated in order of magnitude and population; but the smaller inhabited islands,—the numerous large rocks and ledges, above and under water,—the sand-banks, from which fishes are taken, and on which ships are often stranded,—and the smaller islets and rocks, with their rocky coves and inlets, important for shelter, or requiring to be known that they may be avoided—are also of very considerable interest.

Few parts of the world present, in so small a space, so much variety as is the case with this archipelago; and few groups of islands are so remarkable for their great political and historical interest, combined with singular natural beauty. Constructed for the most part of hard crystalline rock, decomposing or weathering by the constant action of the sea and weather; exposed to the incessant dash of the waves coming in from the Atlantic, which are thrown back by the coast of the Cotentin, only to meet a fresh arrival of others, all bound on the errand of destruction;—the islands have been for countless ages beaten about, penetrated, rounded, broken and carried away,—leaving now only a fret-work of those hardest barriers that have still resisted the attack, and are enabled to present a bold and serried front against their relentless enemy.

It is very essential to a right understanding of the scenery of these islands, that their physical and geological features, and the changes they have undergone to bring them into their present state, should be appreciated. They were originally connected together, and formed part of French land. The separation being once made at various localities, the softer and more easily weathered rocks would soon be swept away by the sea, while the tougher and harder materials would offer much longer and more successful resistance.

Intersected in every direction by veins and crevices, some of the veins being filled with rock yet tougher than the granite of the mass, and some with soft minerals and clay, the result has

been the production of the islands and rocks as we see them. It is inevitable that in this contest, the land above water, that between wind and water, and that permanently below water, must have been differently though always greatly affected.

Bearing in mind these few observations, it will not be surprising that Guernsey, the outlying island, should now present a bare mass of the toughest syenite, with a coast affording the grandest and boldest scenery; while Jersey, although a much larger tract of land, more within the gulf, is softer and rounder, with larger and tamer bays, and a less severe style of beauty. Sark, somewhat the loftiest of the islands, is also the most weather-worn, and is being gradually torn to shreds. Alderney is a rounded mass: the Casquets are jagged pinnacles. The Chaussey islands are like the debris of a worn-out series of quarries. Each group has its own characteristic, and each is a resisting centre, on which the waves have long beaten, but still have only partially done their work. But there is little real difference. The granites or syenites of Guernsey and of the Chaussey islands present differences of detail, but not more so than we often find in granites from adjacent quarries. Each decomposes into a similar soil, and the practical difference between them amounts to little more than a non-agreement as to their rates of decomposition.

Islands placed as these are must be subject to certain inconveniences, inseparable from those spots whose approach involves the crossing of troubled water. There is no way of escaping from this annoyance, except by the use of vessels so large, that they could neither navigate the narrow channels, or enter the small harbours with convenience.

The course of the tidal wave through the waters that surround the Channel Islands, may be thus stated. The great wave coming in from the Atlantic, advances from the south-west, and is turned to the east. A part of it passes on to the north-east, north of the islands; but a part enters among them by various

channels, and being first lifted by shoal water, and then thrown back by the coast of Normandy, it is both detained in its course, and is deflected to the north. At Mont St. Michel, the magnitude of the wave is at its maximum. Owing to the vast extent of the shallow water, and the narrowness of the deeper passages throughout the great bay enclosing the islands, the wave remains extremely large, amounting in Jersey to nearly forty feet, in Guernsey to almost thirty,* and in Alderney to about twenty feet at high spring tides; the difference between high water at spring and neap tides, being seventeen feet at the Minquiers and Jersey, eleven at Guernsey, and seven at Alderney; though sometimes very much greater on the occasion of great spring tides or equinoctial tides.

High water takes place at Jersey nearly half an hour before it reaches Guernsey, and three quarters of an hour before Alderney. The velocity of the tidal current, where not increased by narrow passages, is from two and a-half to three miles per hour.

Although the course of the tidal wave may thus be traced, the current by no means follows the same law. In this respect the complication is so great, that it would be quite impossible to describe it in detail in this place; but in a general way it may be stated, that the stream does not flow northwards with the advancing tide wave in the open channels, till the wave has been flowing three hours, and that when it has turned it continues in that direction not only till the flood has turned, but till the retiring wave has receded half its course. In other words, the stream flows from half flood to half ebb, and ebbs from half ebb to half flood. While, however, this is the case in certain channels, the direction of the stream is not only different,

* The estimate of the tide at Guernsey, according to the careful observations made at the pier under the superintendence of Lieut. Richards, now conducting the survey of the Channel Islands, is as follows: mean time of high water at full moon, 6h. 46m., Greenwich time; mean range of spring tide, 25ft. 9in.; mean range of neap tides, 18ft. 9in.

but often diametrically opposite, at no great distance, but somewhat nearer shore.*

No wonder, then, that the rocks are jagged; no wonder the sand-banks are numerous and shifting; no wonder the ship heaves, and tosses, and groans, while forcing its way through these angry and powerful bodies of moving water. Rather is it wonderful that in all the islands the climate is so equable, and the weather generally so pleasant; that so little rain falls, so few fogs obscure the air, and so much comfort can be obtained at all seasons.

Owing to their geographical position, these islands are rich in certain departments of natural history. They are surrounded by shallow water, rocks, and sands, at a temperature very favourable for animal life. The water is always well aerated, there is abundant vegetation, and plenty of shelter in little caves and nooks. In this respect few parts of the coast of Europe, or its adjacent islands, are more rich. Zoophytes of almost all kinds, crustaceans, molluscs, and sponges, may be studied to perfection in natural rocky basins and caverns, and may be easily removed for study; while the sea-weeds and lichens are equally abundant, and equally available for natural-history investigation.

Owing to the climate, the vegetable productions of the land are equally remarkable. Having a more equable temperature than almost any part of the western shores of Europe, but not a larger rain-fall, there is every facility for cultivating whole classes of plants, elsewhere difficult to keep alive; and, though there is little intense heat in summer, still the absence of cold in winter is sufficiently marked to admit of the orange-tree bearing fruit, while the camellia is loaded with flowers in sheltered gardens, from December to March.

* Between Guernsey and the Casquets the current sets from every point of the compass, during each advance and recession of the tidal wave. Hence, the navigation is exceedingly difficult and dangerous in foggy weather, ships being sometimes drifted for miles out of their course.

Placed close to Normandy, with whose early history they were intimately connected, the inhabitants of the Channel Islands have never lost the associations that were hence derived. In language and literature, and in laws and customs, they retain many early forms adapted for a young people, and thus they offer abundant material for useful study and comparison, to the ethnologist, the philologist, the student of history, and the lawyer. They have also abounded in antiquities referring to the earliest inhabitants of Western Europe, although such remains have disappeared rapidly of late years.

But chiefly are these little spots remarkable for exquisite and varied beauty of scenery. Each island has its own beauty, but all are remarkable. The artist may study for weeks the trees and ferns of a few acres of ground, or the rocks and lichens of some hundred yards of cliff; and the naturalist may wander for days over a space of a few square miles, without half exhausting its treasures.

That the Channel Islands are not known to the public generally cannot be said. But the knowledge concerning them is vague, and not at all in proportion to the interest they are calculated to afford. The islands are popularly little distinguished from each other, though essentially very different. Their magnitude and relative importance are scarcely ever appreciated by those who have not visited them; and those who do visit one, are frequently induced to pass over the others as of minor interest; although, in fact, there is hardly any resemblance in the characteristics of each, and all are worthy of a prolonged examination.

It must not be imagined that size is a criterion by which their relative interest can be guessed at, or that any of the islands can be understood by a rapid survey. There are difficulties in the way of really reaching the spots best worth seeing in all the islands, while the readily accessible views, and various points of view dwelt on in guide books, with the unction pecu-

liar to that class of literature, cannot safely be accepted, either as those which will satisfy the true lover of the picturesque, or as in any way worthy of the exclusive notice they have been favoured with.

As in most small tracts of country where there are objects of special interest, some little time and trouble must, in fact, be devoted to their discovery. A carriage will doubtless place one near the spot where these things are to be looked for, and the roads are generally good; but a pair of legs, accustomed to convey their owner without complaint, and a steady head, not alarmed at a precipice, are necessary for any one who would do justice to nature, and seek her where she loves to linger, and where she pours forth her most valuable treasures.

As a place to visit during summer and autumn, but especially in the late autumn, up to November, it may safely be said that these islands are, beyond comparison, superior to any of the ordinary resorts of tourists, unable to reach the south of Europe. Much more varied in the style of beauty, though much smaller than the Isle of Wight, we have in most parts of Jersey and Guernsey, conditions only found in the most sheltered parts of the Undercliff in the Isle of Wight.

The winds blow, and may be troublesome, but in the latter half of the year they are seldom cold, and never treacherous; there are then no fogs, and night frosts are extremely rare. The flowers continue to bloom, the fall of the leaf has more of softness and tenderness than of sternness, and the approach of winter is so quiet and gradual, that it is almost unheeded. There may be better summers on the Continent, though they are pleasant enough here, and the spring is ungenial in all northern latitudes; but for late autumn, there is no rival to the Channel Islands within several hundred miles.

In describing the islands, it will be best to proceed systematically, beginning with those that form the northern boundary of the tract of sea they are contained in. Those whose time is

limited, cannot indeed follow this course in their travels; and many do little more than drive round Jersey and Guernsey, and spend a few hours in a fatiguing walk over the flat table land of Sark. To them this systematic course cannot fail to be useful; for though they no doubt fancy they have seen everything, they may thus discover that there remains material for another visit, when they will do well to devote time to each island in succession, and look out for the points before neglected. They may be assured, that they will find few places so small that take so long to see.

Those also who have not yet visited these outlying possessions, these ancient fiefs of our Queen, whose inhabitants regard themselves as independent of parliamentary jurisdiction, being governed by their own houses of assembly, and by officers appointed by the crown without reference to the laws of England, will be enabled thus to obtain beforehand a general glimpse of what is to be seen and studied, which may save much time and trouble when they do come.

That the Channel Islands possess great importance as military stations, and are capable of affording refuge to shipping in time of war, is a fact that has always been felt, and from time to time acted on by Great Britain. Large sums of public money have been expended in fortifying them and commencing harbours. The harbours, however, at present available, have been constructed entirely at the expense of the islanders. Perfect freedom from customs'-duties, and all other taxation for the benefit of England, an absence of interference with local laws, and even a permission to use in the public courts, and for public occasions, the French language, and to employ French coins in circulation, has been granted without question. That a people so governed should be loyal, and should do all in their power to retain the customs and privileges under which they have so long flourished, is not surprising. That islanders should be hardy boatmen, and but indifferent agriculturists, might also be ex-

pected; and that a people so greatly favoured by nature in climate and fertile soil, and by political circumstances in their local governments, should be free and independent, jealous of interference, and rather proud of what they have already done, than careful to adopt new systems of which they have had no experience, is neither to be wondered at nor blamed.

In visiting these possessions, therefore, or while reading an account of them, the traveller in the one case, and the reader in the other, will do well to bear in mind, that both place and subject are neutral ground. The islands can neither be regarded properly from an English nor from a continental point of view. The people have customs, venerable from age and historical association,—customs, superseded in Normandy and England, but not, perhaps, the less adapted to small communities. They have a language which, in its peculiarities, must be regarded as unformed rather than deformed. They are, in Guernsey especially, and in some respects also elsewhere, singularly tenacious of their family ties, and apt to narrow, rather than extend, their social circle. They are, in a word, islanders rather than English.

It must also be borne in mind, that hardly any Celtic element is recognisable in these islanders. They are not like the Manx men, the Welsh, or the Bretons. They are Normans, but Normans of the old school. Norman freemen, before there were Norman barons and vassals of the crown, retaining the northern love of independence, and not at all the Gallic tendency to depend on the fostering hand of a central government.

They thus offer curious points of character; and, till lately, the mass of the population in some of the islands had undergone marvellously little change.

But the time of change has come. Roads, steam-boats, and public works, have already so far altered the peculiar features of the larger islands and the national peculiarities of their inhabitants, that we must now seek for many quaint and interesting characteristics that, only a few years ago, openly presented them-

selves in the streets and market places. The cultivation of the land is improving; legitimate trade has assumed large proportions; excellent roads, and noble piers, quays and harbours, have been constructed at vast expense; and to provide funds for these, the inhabitants have been contented to tax themselves very heavily. Prices of all kinds of food, house-rent, and other necessary items of expenditure, have become gradually higher and higher,—have approximated, in fact, more and more to the prices of similar articles in the great centres of population; so that now, the islands have almost ceased to tempt the possessors of small incomes and large families to migrate thither. In the place of these, of whom, however, many remain, there is a rapid increase in the number of tourists, who flock over by hundreds, in search of health, amusement and relaxation; and who will find their time well spent in examining the numerous objects of interest that here abound. It is desirable to clear the way for their benefit, and state briefly and what is distinctly remarkable and best worthy of notice in every part of our little channel archipelago; and in the history, antiquities, science, natural history and literature belonging to its various members.

To give the reader some idea of the very great number of islands, islets, rocks and shoals, forming the Channel Islands, a list is subjoined of the various groups, as named in charts; and to this is appended the proximate area, in square miles, of the space each group may be considered to occupy. It must be understood, that the area given is not that of the actual land. In some of the groups, the surface of rock exposed at high water is not more than a few square yards in area, for every square mile of dangerous surrounding sea; but, estimating the dimensions by the extent of dangerous water, a very fair idea will be formed of the relative importance of each group in navigation. It would, perhaps, have been interesting, had it been possible, to state the number of rocks beyond a certain size, visible at all times of tide; but no sufficient materials exist for this.

Names of the principal islands and groups of rocks and shoals.

	Area in sq. miles.
I.	
Alderney,* and adjacent rocks	4
Burhou, and other rocks and islets	4
Casquets rocks*	1
Banc du Schôle	3
II.	
Jersey,* and its surrounding rocks	80
Dirouilles and Ecrehou rocks	16
Paternosters, or Pierres de Lecq	2½
Banes Félés	2
The Anquettes	5
The Fruquier	2
The Bœufs	3
III.	
Guernsey,* and adjacent rocks and islets	20
Herm,* Jethou,* and other islets and rocks	12
Sark,* Brechou, and its islets and rocks	5
IV.	
The Minquiers	80
The Chaussey islands* and adjacent rocks	15
The Roches Douvres	7
Plateau de Barnouic	6

In this list, the names of all those islands that are regularly inhabited are indicated by a star (*). Several of the others are occasionally visited during summer, either for herbage or as fishing stations, and on them are huts or other buildings. The most important of them are the Burhou larger island, the 'Maitresse Ile' of the Minquiers, some of the larger of the Ecrehou rocks, and some of the Chaussey islands. On the Ecrehou rocks are remains of buildings of great antiquity, said to be constructed of stone brought from the main land of France.

In addition to this long list of names, each of which represents a group, and often a very numerous group of rocks, there are many smaller groups, and a multitude, almost countless, of detached rocks, either visible at some time of tide, or dangerous to navigation from the sea breaking over them. Close to the French shore, both of Brittany and Normandy, but especially the former, the rocks and shoals are almost too numerous to be marked in any chart.

A very important chain of light-houses indicates, by a line of

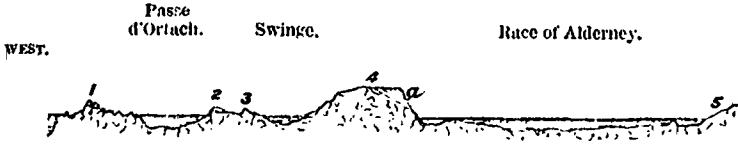
fire, the outlying points of the Channel Islands and the whole adjacent land.

From Cape la Hague, in Normandy, to Les Héaux, in Brittany, there are no less than thirteen lights, several of them of the first class, placed at intervals on the French coast. The Casquets light, and a light recently placed on the Hanois rocks, near Guernsey, mark the approach to the islands from the Channel; while various coast and harbour lights on all the principal islands assist in pointing out to the mariner the dangers that exist to navigation and the welcome refuge offered.

The subjoined cut represents the *Chasse marée*, a kind of French coasting vessel, characteristic of the Channel, and often seen in Guernsey seeking shelter from westerly gales. These craft are extremely picturesque, and were formerly common. Diminished smuggling and improved navigation have rendered their visits less frequent of late years.

CHAPTER II.

ALDERNEY, ORTACH, AND THE CASQUETS.



SECTION FROM THE CASQUETS TO CAPE LA HAGUE

References.

1. Casquets.
2. Ortach.
3. Burhou islands.
4. Alderney.
4*a*. Sand-stone in Alderney.
5. Cape la Hague.

A FORMIDABLE mass of hard rock, forming the north-western extremity of the Cotentin and terminated by Cape la Hague, serves as a buttress protecting that part of Normandy which ranges northwards from Mont St. Michel. This headland is separated by a narrow channel of no great depth from the northernmost of the three principal groups of the Channel Islands; and, through this channel, the sea, at high spring tides, sweeps at the rate of eight miles an hour, in a steady current. From the rocks beyond Cape la Hague, to those that fringe Alderney (the nearest land), there is a distance of only six miles, of which little more than two miles exceeds twenty fathoms in depth. This passage is called the Race (or Ras) of Alderney. The extreme distance from the Cape la Hague to the nearest land of Alderney, is about eight and a-half miles, the direction being nearly due west.

Alderney is the largest and principal island of the northern group; and, as a military position, it may be regarded as the Ehrenbreitstein of the English Channel.* It is oblong, or long oval, in form, lying north-east and south-west. It lies between 39° 42′ and 39° 44′ north latitude; and between 2° 9½′ and 2° 14′ west longitude. One half of the island, divided by a line running east and west from the Braye to Longy, is high; the extreme height being about 280 feet. The length of the island from north-east to south-west, is about three and a-half miles, and its width about one mile. The greater part of the island is a flat table land, more or less cultivated. The land continues flat to the edge of the south-eastern and southern cliffs, which are wonderfully grand, and there descends almost vertically into the sea, presenting to the lover of fine scenery, a succession of magnificent examples of broken and perpendicular walls of rock. On the north side of the island, the ground slopes gradually towards a succession of bays, more or less tame.

It will now be desirable to communicate to the reader some idea of the island, by a survey of the coast. Approaching from Guernsey, the exceedingly lofty and abrupt cliffs of Alderney are somewhat masked by a number of detached rocks or islets, lying a short distance from the south-western extremity of the land. A still nearer approach separates them, and shows something of their magnitude and importance. This coast terminates at a small battery or rock fortress, standing out about a furlong from the land, with which it connects by a causeway. The *Clonque*, as this fortress is named, is the first of an important series of defences which run round nearly five miles of coast, reaching from the Clonque to Fort Essex. The Clonque is

* It corresponds, however, to what Ehrenbreitstein would be, if in the hands of the French, and held against Germany, rather than to the value of that fortress in the hands of Prussia. As an island, Alderney is considered defensible; but it has a large exposed surface; and only one of the forts (la Tourraille), is constructed to hold out against a serious land attack with heavy artillery.

situated near the south-western extremity of the island, and the part of the coast requiring defence includes not only the whole of the side of the island facing the north-west, but the whole northern extremity, and about a mile of the side facing south-east. The rest of the south-eastern side and the southern extremity, are naturally defended, and may safely be left to take care of themselves.

The form of Alderney has been mentioned. The ground rises from the sea, on the north-western side, in some places by a gradual slope, and in others by a succession of terraces, to a plateau about 250 feet above the sea level. The whole of the coast is rocky; on one side (the west) there is a cliff of irregular angular blocks of granite, fallen away from above, and deposited as a natural talus, reaching about half way up the ancient cliff. On the other side, is a bluff precipice of rock, reaching to the sea, and defended by an outer barrier, or fringe of granite islands. Beyond the heap of detritus on the west side, there is also a fringe of unbroken portions of the granite rising out of the sea.

The talus, just described, extends from the Clonque towards the north-east to the commencement of the new harbour, and renders it impossible to strengthen this part of the island except by coast forts adapted to resist a landing on the dangerous shores of the bays that exist between the Clonque and Touraille forts. Of these bays there are three; the westernmost, Clonque Bay, is between the Clonque and Fort Torgee. It is very rocky, and not deeply indented; nor is the land very approachable from it. The next is the Plat Saline, extending to Fort Doyle, between which and Grosnez is a small bay, called Crabbie. There are sands at low water in these two bays. At Grosnez, the pier commences. On the side of the Plat Saline, nearest Fort Torgee, is a pretty opening communicating with a valley, giving easy access to the interior of the island, and connecting with other valleys opening in the opposite direction, at a point called Tres Vaux, or Three Valleys. These valleys terminate abruptly

at a lofty, vertical cliff. The part of the rock out of which these valleys are scooped is an exceedingly rotten granitic vein, readily acted on by the weather. A small stream of water comes down to the western coast, and has been made use of to turn a wheel. Roads communicate from the Plat Saline to the town, which lies above, on the plateau, at a short distance.

A neck of land, near Cape Grosnez, is called the Braye, and gives its name to the next bay—the largest and most important of all, and the one selected for the new harbour.

From the extremity of this headland, on which is a strong fort, the long arm of the western pier or breakwater takes its origin. The distance of this point from the opposite land of the bay, is about 1,200 yards, this being therefore the effective width of the natural bay. The curve is nearly semicircular, but the bottom is rocky and at present shallow. Much blasting and clearing out will therefore be necessary; and owing to the direction taken by the west breakwater, the harbour must always be inconvenient.

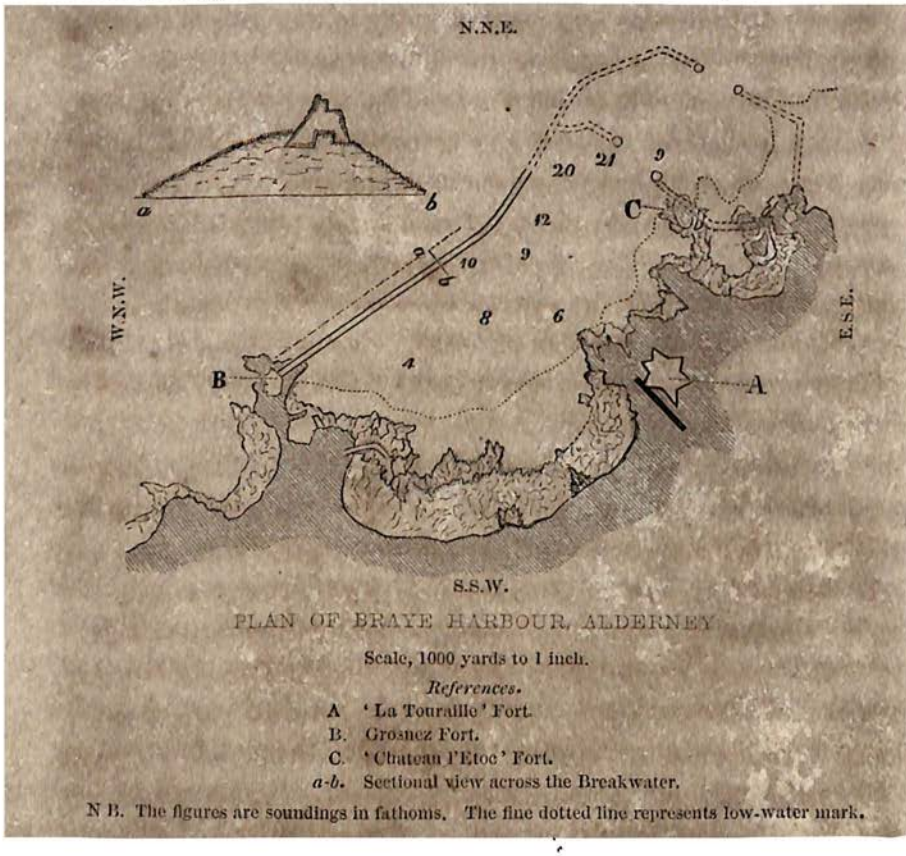
The harbour originally projected required the construction of two small breakwaters: one, 900 yards to the east from Cape Grosnez; and another, north-west from Roselle Point, running out 400 yards. These would have enclosed the natural bay.

To enlarge this design (which was originally either too much or too little), it was determined to alter the direction of the west breakwater to east north-east. This has involved a large quantity of work done in water upwards of twenty fathoms deep, and has completely cut across the excellent anchorage that might have been secured by carrying the breakwater from rock to rock. Had this latter work been decided on, a magnificent harbour would have been secured at a comparatively small expense. Nearly a million sterling has now been expended on the 1200 yards of the west breakwater at present carried out. The east breakwater is not yet commenced.

The effect of the breakwater hitherto has been to shelter a

considerable part of the anchorage from west and south-west gales. There were originally several rocks within the space enclosed, but most of these have been lowered to a sufficient depth to render the harbour safe even for large vessels.

The annexed plan represents the present state of the works, and the two methods suggested for completing the harbour are indicated by broken lines.



PLAN OF BRAYE HARBOUR, ALDERNEY.

Scale, 1000 yards to 1 inch.

References.

A 'La Tourailie' Fort.
B. Grosnez Fort.
C. 'Chateau l'Etoc' Fort.
a-b. Sectional view across the Breakwater.

N B. The figures are soundings in fathoms. The fine dotted line represents low-water mark.

Great as the error has been in the construction of this harbour, and although, beyond doubt, the accommodation, when completed, will be far less and far worse than it ought to have been, no policy could be more absurd or suicidal than to stop or check the works in their present state. The shelter that will be afforded when the works are completed is an object of great im-

portance. To obtain this, vast sums have been expended in constructing a long series of forts, to command efficiently some five miles of coast. It is in this harbour that our merchant ships would look for safety in the event of war. It is here that gun boats and other ships of war would collect;—to this place they would repair for coal and stores;—here they might refit, and hence they might issue to cut off and destroy an enemy stationed at Cherbourg. If the Channel Islands are to be preserved—and that the possession of these islands means the possession of the Channel, is more than ever the case now—it can only be by rendering Alderney useful as well as strong; and much of this usefulness consists in there being a harbour of refuge. It is not now the time to consider what might have been done better; but it is a very serious question indeed, what can be done best with the materials still at our command.

On the northern side of the harbour is a hill of no great height, but of an exceedingly hard porphyritic rock, which has been strengthened, and on which is constructed the principal defence of the island. This is Fort Touraille. Beyond it is another, much smaller, but also important work—the Chateau d'Etoc. Between the two forts is another rocky little bay.

At the foot of a small hill near Fort Touraille is the first of a series of extensive quarries, opened and worked for the purposes of the harbour. The stone here is a grit-stone, partly fine and partly coarse-grained; moderately hard, compact, and capable of being worked in blocks of considerable size.* This kind of sand-stone rock forms the whole of a small, low promontory at the north-easternmost extremity of the island. In a military sense, this extremity is the weakest point of the island. The coast is low, and though certainly very rocky, and with a con-

* It is a fact of some interest, that many old buildings in Guernsey are partly constructed of this stone. It was, no doubt, much less costly to work and carry it from Alderney than to break the island granite with the imperfect tools at command.

siderable current generally driving past, it might, in favourable weather, be made use of for landing men and artillery.

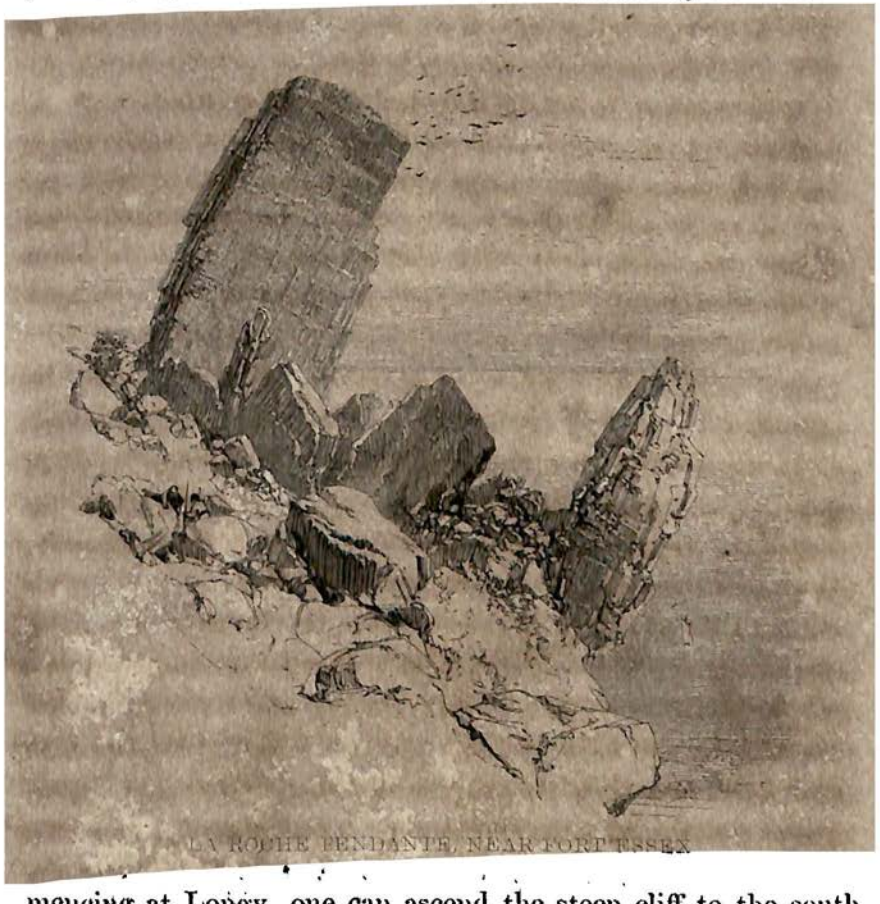
To strengthen as much as possible this part of the island, no less than six forts and batteries have been constructed, the total length of coast-line being only about two miles; but it still remains weak, should an attack be made with mail-clad ships able to silence the batteries. There would be no difficulty in constructing a deep and wide canal, detaching this weak part of Alderney altogether, reducing the number of men and guns required for the defence of the place, and greatly strengthening the remaining defences, by rendering the landing of artillery almost impossible, except in Braye Harbour or the Plat Saline.

This little promontory of sand-stone has several small rocky bays, the last and largest of which, and that which cuts deepest into the shore, is called Longy Bay. Sand partly covers the rocks in all these bays; but the grit-stone rises in small jagged ledges and angular blocks, often extremely picturesque, and giving a curious appearance to the shore at low water. A small island of sand-stone is connected by a causeway with the northern side of Longy Bay. It is called the 'Isle du Ras'—the island of the Race (of Alderney)—a name corrupted into Rat Island. On it is a fort of some importance. Similar islands, occupied by forts and communicating by causeways, may be seen to the east and west of the northernmost point of Alderney, completing, as far as possible, the defences of those parts of the coast regarded as assailable.

The scenery of the coast, from the Clonque round to Longy, is not either grand or very picturesque. There are some small valleys with a few trees; but for the most part, the aspect of the land is naked and tame. Fort Touraille is an exception; and, from its severe simplicity of outline, it impresses one more with an idea of strength than any other part of the island. It is well placed, the approaches are few, and the intensely hard porphyritic rock on which it is built has been made available on all sides.

From Longy Bay the rest of the south-eastern part of the

island, a distance of nearly five miles, offers a succession of grand and beautiful examples of cliff scenery. These, however, are only approachable with some little difficulty, by following the line of the cliff and descending from place to place where the ground admits. There is hardly a single point along this whole coast at which it is possible to reach the sea without incurring greater trouble and risk than the occasion altogether warrants; but, without this, enough may be done to satisfy the lover of the picturesque, however severe and critical his taste may be. Com-



LA ROCHE PENDANTE, NEAR FORT ESSEX.

mencing at Longy, one can ascend the steep cliff to the south by a good road, which continues as far as Fort Essex, where is a very curious little tower, said to be of great antiquity. From

this, a rough climb conducts to the Roche Pendante, one of the most magnificent isolated masses of sand-stone rock to be seen. This grand pinnacle rises from a heap of broken fragments of sand-stone, but is itself a part of the cliff. The separation is a narrow gorge, whose walls are absolutely vertical. The rock, having a stratification parallel with that of the cliff, stands—a huge, square block of stone—on a base, whose area is some two or three thousand square feet. It is at least thirty, perhaps forty, feet in height, and there is another similar but smaller block a little below, which again connects with a succession of rocky eminences extending out into the sea.

A noble view is obtained from the rocks at the foot of the Roche Pendante, the sand-stone being seen in a succession of stratified plates, dipping away into the sea, and covering the cliffs as far as the cliffs can be seen. Many inlets occur, and each of them presents peculiar and beautiful features, produced by numerous thinly-bedded grey rocks, coated with lichens, projecting beyond the soil.

Passing on along the slope of the cliff, the grit-stone may be walked on for more than a mile. It then ceases, and is succeeded by deep hollows, alternating with bold, narrow ridges of hard granitic rock, several of the granitic masses extending out to sea, and forming detached islands. The cliffs are here, without exception, far too steep to render a descent possible; but one can generally perceive the nature of the coast, by going some distance down on the deeply shelving slope, overgrown with broom, heather and grass. At one place a huge arched rock is seen, the light piercing through from the further side. In another, is a small beach, covered with black sand, mixed up with numerous large rounded blocks of granite. Here the rocks descend at once into a deep black pool; there the water is so clear that the rocky bottom is visible from the cliffs above, although their height is nearly 200 feet.

Continuing to work our way round the various inlets, we

come again, after a time, to the sand-stone, of which there is a second small patch, quarried near the top of the cliff, and seen reaching the sea.* Afterwards there is nothing but naked and rough granite and porphyry. Wonderfully broken and precipitous are the cliffs thus formed. Many of them are quite vertical, either to the sea or to very small bays, where the water is seen foaming and boiling in the most extraordinary manner. From one headland to another—round great hollow depressions, where the granite is soft and decomposing—along parts of the cliff where wide cracks at the surface show the possibility of the ground sinking under his feet, the visitor may pick his way, rewarded occasionally by bursts of unexpected grandeur and beauty. The cliffs are often so vertical, that one may look down to the sea rolling in at one's feet, and across a narrow inlet perceive clearly the geological structure of an opposite cliff. There is one spot in particular, where a wall of rock, a couple of hundred feet deep, displays a beautiful olive-coloured porphyry, crossed by great horizontal veins of flesh-coloured felspar, succeeding one another at intervals down to the sea line.†

The scenery of the cliffs varies a good deal, and much of it is almost peculiar to Alderney. In many places depressions of the surface are observable, and one is obliged either to make a wide circuit, or descend a deep hollow. Two or three such scoopings out of the surface are passed on the south-east coast. They correspond to the presence of a peculiarly decomposing rotten material, that alternates with the harder parts of the rock. As there are generally hard walls to these softer hollows, they are often in the highest degree picturesque, for the action of the sea having worn away a deep inlet, the wall of rock on each side allows of the inlet being approached pretty closely without inconvenience. Up one such hollow the telegraph wire

* This is well shown in a sketch engraved in Chapter X., where its geological meaning is explained.

† See illustration in page 1, the title to this part of the work.

communicating from Portland, through Alderney, to Guernsey and Jersey, has been brought. It is now unfortunately useless, and must remain so, until by taking advantage of late surveys of the Channel, and making a cable adapted to the amount of wear it is likely to undergo, some rational plan is suggested for re-laying the whole line. Certainly, no one acquainted with the Channel, would have expected that the cable, as laid down, could long resist those numerous destructive agencies to which it was sure to be exposed between England and Alderney.

Towards the south-western extremity of the island there is a succession of very bold and grand cliffs, beyond which is a reef of picturesque rocks, some of them of large size. At length we come in sight of Clonque Battery, and the little island beyond, marking the termination of the bold line of coast. The fragments of a magnificent Druidical monument may be traced on the cliff at this point.

It is the fashion, and has become almost a tradition, to speak of Alderney as a desolate station, offering no single object of interest, and nothing to occupy any rational person for many hours. But those who are capable of appreciating grand, rocky scenery, and who are able to look at it; persons who would regard Wales, Scotland and Switzerland, as worth visiting for themselves, for their wild beauty, and for the sublimity of their scenery, ought not to complain of this remarkable island. Such persons may, beyond a doubt, find along the coast we have been describing, quite as much grandeur and beauty as they have anywhere seen in a day's ramble. And although there is certainly no extended line of this fine rocky cliff, owing to the smallness of the island, still even a distance of only five miles, where every hundred yards exhibits something worth pausing to admire, will occupy a good deal of time. A considerable drawback exists, owing to the great difficulty, often amounting to impossibility, of getting down safely to the water's edge, and rambling on from point to point, at low tide, as can be done in Sark.

To get to the small beaches a boat is necessary; and it is not often, even in weather apparently fine, that boatmen would be found willing to venture so near the shore as to enable one to visit the beaches, and examine closely the naked rocks and the caverns.

Although the coast certainly affords the principal objects of interest in Alderney, there are other not trifling matters on the plateau. The town itself is pretty much what might be expected from the circumstances of its origin and growth. A vast multitude of new, small, plain houses, covers the part looking towards the new harbour. There is nothing either in their design or execution, that requires a single remark. There are few public buildings except the new church, and not one of them exhibits anything but the worst style and most vulgar taste, if we except an Independent chapel, now being built, which is creditable, even elegant.

The new parish church, however, forms a marked exception. Placed unfortunately in a depression, and not on the top of the high ground, the massive early English style selected prevents it from being favourably seen, except from one or two points, not easily reached. Thus its noble and severe proportions, instead of being felt as elements of strength and beauty, as they would have been, had the building occupied a commanding position on so small an island in an open sea, now communicate an opposite impression, and some of the best parts of the design cannot be at all appreciated.

Still it is a remarkable building, and does great credit to its eminent designer, Mr. Gilbert Scott. The walls are of island sand-stone, with quoins of Caen stone—a selection much to be regretted, as this latter stone is eminently ill adapted for out-door work, in such a climate as that of Alderney. Accordingly, although not constructed more than fifteen years, all the faces of these stones on west and south-west exposures, are scaling and falling away.

Except the doors, which want size and importance, and the

windows, which, even for the style, seem extremely narrow, the exterior of this fine church must be regarded as satisfactory, if we exclude from consideration the unfortunate want of adaptation of the building to its site. Within, few modern churches could be pointed out, which show better taste and feeling for the sacred purpose of their construction. Everything here harmonises, and even the smallness of the windows is not objectionable, so soft and well arranged is the light.

A beautiful circular apse, at the extremity of the choir, forms a proper finish, and is connected with the building by an arch of exquisite proportions. The roof is simple and effective, not at all prominent, rather original and very ingenious, while there reigns throughout a mixture of order and variety that cannot but please the most fastidious taste.

The church is a worthy memorial of the family of Le Mesurier, long the hereditary governors of the island; and was erected, with that intention, by the son of the last of the hereditary governors, Lieut. General Le Mesurier.

An extremely fine portrait and good picture, said to be by Opie, representing this active and energetic officer, is suspended in the Court house. It is a picture, remarkable as well for its drawing as its colouring; evidently true to nature, and rendering, without flattery, the higher qualities of the intellect; and this in a manner rarely seen in English art.

Outside the town, and in the open country, away from the cliff, there is not much in Alderney that is interesting to the general tourist. The geologist will find some remarks that may be worth attention, in the chapter devoted to that subject; and, the antiquarian, if also a geologist, may study to advantage a number of supposed cromlechs, which, in comparatively recent times, seem to have been far more perfect than they now are. In one part of the island, near Fort Touraille, called *les Rochers*, a common is strewn with a vast multitude of round blocks of granite. These have not really been water-worn, as might be

supposed. Similar blocks exist in great abundance, just below the surface. Those standing alone on the surface are probably *in situ*; but, where several are near together, especially if arranged in any order or heaped one upon another, they have, perhaps, been removed a short distance.*

There are few trees in Alderney, except in the two or three small valleys opening to the sea, on the side facing the Channel. Over the whole of the plateau, the land is naked, and divided into long, narrow strips by a few boundary marks; or, at the most, by low stone fences. Near the edge, the ground is usually uncultivated, and is often not very easy to walk upon, as it slopes rapidly, and terminates abruptly in steep and dangerous cliffs.

Alderney is amply supplied with water, obtained from wells in most parts of the island, and from a few small running streams. The water is of good quality.

From Alderney, towards the west, there extend several groups of islands and rocks, with two intervening channels of moderate width and small depth. About a mile from the south-western part of Alderney, but leaving a safe passage of not more than a few hundred yards, extends a large shoal, from which rise several islands and rocks. This shoal is about two and a-half miles from north-east to south-west, and a mile and a-half wide. The nearest islands, called the Burhou Islands, are almost flat, and of considerable size. One of them is nearly half a mile in length. They are all uninhabited; but a house has been erected on the largest islet, to shelter fishermen and others, who may be driven to land there by stress of weather. The shape of this land is broken and rather picturesque; and a multitude of small rocks run out, at low water, making the length, at such times, nearly three times as great as at high water.

The passage between Alderney and the Burhou shoal, is called

* See an account of them in the chapter on geology.

the "Passe au Singe," Anglicised into "the Swinge." It is always dangerous, and often unapproachable; and, in the narrowest part, there is barely ten fathoms of water. It is funnel shaped, widest towards the north-east. The width is least between the Burhou Islands and the rocky bay included in that part of Alderney extending from Mont Torgee to the Clonque. A second similar range of low islets extends behind. Other rocks are continued, at intervals, until we reach the singular and picturesque islet, called Ortach. This rocky mass, well shown in the engraving at the end of this chapter, from a sketch taken about three miles to the south-east, is about sixty feet in height; and is a striking object from the south, being seen, in clear weather, at a distance of upwards of twelve miles. Towards the south, it goes down vertically into the sea to a depth of sixty or seventy feet; but, on the west side, a ledge of rock runs out from it, at a depth of fourteen feet below low water. Not far from it to the south-east, is a concealed rock, called the "Pierre au Vraic," over which the water dashes and foams incessantly, even in the calmest weather.

Between the Burhou islands and Ortach rock, and the rocks farther westward, there is a passage called the Passe d'Ortach, wider and deeper than the Swinge, but even more dangerous, owing to the peculiar set of the tides. This passage separates the shoal already described from the group of rocks terminating with the Casquets. The latter rocks are very important, from their position in the Channel. They are nearly midway between England and France; and rise abruptly out of deep water, in the direct line of a ship's course advancing up channel, whether from the Atlantic, the Bay of Biscay, or St. George's Channel.

The Casquets group of rocks is about a mile and a-half in length, from west to east, and about half a mile across. The northern islet, which is of conical form, and bears the light towers, is about 100 feet above high water spring tide; the southern islet is much lower, and flat-topped. They both rise

from a mass of rock uncovered at low water, from which rise six other large rocks. To the east the mass extends for some distance, terminating abruply in a large rock, named Cottette Point.

The light-houses are three in number, each having a catoptric light of the first order, revolving, and eclipsed at intervals of twenty seconds. The height of the lights above high water is 113 feet. The lights are visible at sea to a distance of fifteen miles in clear weather. They are seen perfectly in ordinary weather from the high ground of Guernsey, at a distance of twenty miles. A bell is sounded in foggy weather.

The first effective lights at the Casquets were placed in 1790, preceding which date there had been for about eighty years a partial light, at first merely of burning coals, and afterwards oil lights, in a copper frame. Many wrecks are recorded to have taken place upon them before this time.

In spite of the remarkable and distinctive character of the triple light, a Russian man-of-war was lost on the rocks in the beginning of the present century. The circumstances of the wreck are worthy of note. It is supposed that the ship first made the Casquets in coming up channel, so as to keep two in one, retaining this position till she came abreast of the rock. On then opening the third light the pilot discovered his error, and endeavouring to extricate the ship, actually fell into the destruction that had by accident been avoided.

Several banks, some rocks that occasionally appear above water, and some banks of sunken rocks, rising out of deep water to within a few fathoms of the surface, surround the Casquets. These produce a swell and disturbance of the sea at all times, which render the whole group very difficult and dangerous to approach. A little to the north-east of the eastern rocks are the "Pommier" banks, covered with only three or four fathoms water.

There are two landing-places for boats on the Casquets; but there is rarely a possibility of using them, owing to the inces-

sant swell and frequent breaking of large waves. The two landing-places are hardly ever accessible at the same time. The provisions and oil are supplied monthly from Guernsey; but it is always thought right that three months' provision should be kept on the rock. Fish and lobsters are caught around and on the rocks. Water is saved from the rain in cisterns, and there is or was a small spring.*

About a mile and a-half from the Casquets to the S.S.W., is a singular bank of coarse sand, nearly three and a-half miles in length, by half a mile wide, the top of which is more than ten fathoms below the surface, but is a steep ridge, narrow at the top, and bearing about S.S.E. This is generally described as the Casquets' middle or S.S.W. bank, and there is reason to suppose that this direction may have applied to it at the time of Admiral White's survey, although it is now not only very much smaller in extent, but altogether different in position. This ridge is probably one of the results of the peculiar course of the tides, part of the tidal wave sweeping between Jersey and Guernsey, and so through the Swinge and Ortach passage, while another part coasts the island of Guernsey, passing outside the Casquets.

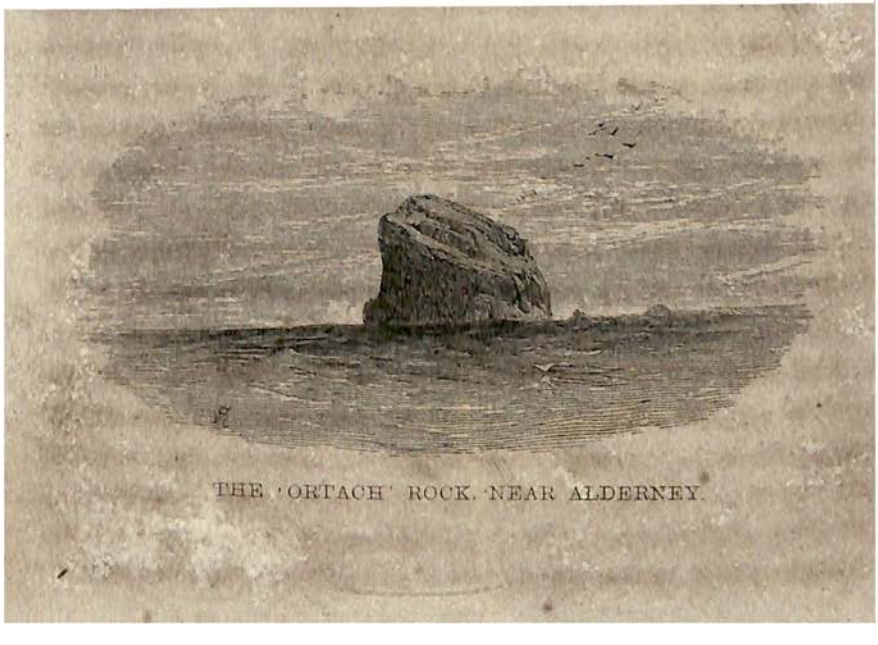
About five miles due south of the island of Alderney, is a very extensive bank and shoal, measuring about seven miles by two, and covered by only ten feet water at the lowest tides. It lies in a direct line between the Race of Alderney, and the entrance to the great Russel. This is the Banc du Schôle. It is shifting and very dangerous, as the sea breaks on all parts of it. It is composed of sand, gravel, and shells. It appears to be broadening.

The projecting line of rock extending from the coast of France, near Cherbourg, to the Casquets, may therefore be regarded as a

* This spring, no doubt, occurred at the contact of the sand-stone and syenite, of which the rocks are composed. It is considered to be lost, but might probably be regained by a little search.

kind of natural gigantic breakwater, forming the northern arm of the great bay in which the main groups of the Channel Islands are contained. If the sea-bottom, which is in very few parts so much as twenty fathoms deep, were elevated a hundred and twenty feet, the island of Alderney, the Burhou and Ortach group, and the Casquets, would be connected by low land, and form a narrow island about twelve miles long. The eastern extremity of this island would approach within a few miles the coast of France, and it would range nearly parallel to the south coast of England, between Weymouth and the Isle of Wight. Each extremity would rise three or four hundred feet above the sea level, and a hill of similar elevation would be seen about midway, but with these exceptions the land would be low, irregular, and rocky, not unlike the northern parts of Guernsey and Alderney. This will be clearly seen by reference to the map at the end of this volume.

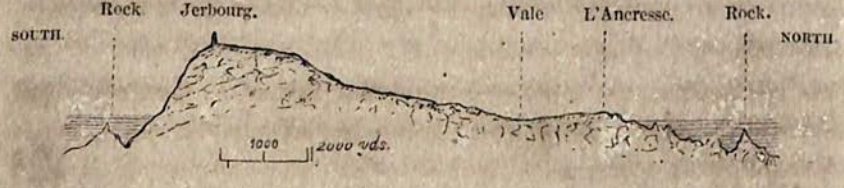
Taking, however, the land at the level at which we now find it, this large island is reduced to a multitude of rocks and a few small islands, the fragments of a more extensive district.



THE 'ORTACH' ROCK, NEAR ALDERNEY.

CHAPTER III.

THE ISLAND AND COAST OF GUERNSEY.



SECTION ACROSS GUERNSEY,
Showing the form of the island.

GUERNSEY is a wedge of granite, serving, like the Casquets, as one of the last remaining outworks of a tract of ancient land, at the entrance of the English Channel. It is the most westerly and exposed island of the Channel; covering and sheltering, by its position, several smaller islands. It is admirably adapted, in time of peace, to build ships and hold communication with the world; and it has been found equally well adapted, in time of war, to fit out and receive privateers, to destroy and harass the trade of an enemy.

The geographical position of Guernsey is as follows:—It lies between 49° 25′ and 49° 31′ north latitude, and between 2° 30′ and 2° 41′ west longitude. Its shape is triangular, two sides of the island making a right angle at the small south-eastern promontory of Jerbourg. The hypothenuse, or longer side of the triangle, bears nearly south-west and north-east, and measures

about nine and a-half statute miles in length. From south to north (on the east side) the length is about six and a-half miles, and from east to west (on the south side) about seven miles. These distances do not include the outlying rocks. The total area of land and rock, at low water, is rather more than twenty-four square miles, the measurement usually recognised giving 15,560 English acres. Of this area, about 10,000 acres are under cultivation.

The whole of the southern part of Guernsey consists of a plateau, with very few undulations, slightly broken at various places by narrow ravines; some towards the sea, and others landwards. The surface is almost entirely cultivated, and covered with farms.

By far the finest coast scenery of the island, is that produced where this plateau terminates abruptly towards the sea. Whether on the plateau itself, looking down the valleys which conduct to the various little bays and coves, some rocky and some sandy, we notice the wooded scenery of the island opening out to the sea; or, wandering round on the cliffs, follow the outline of the rocks, and notice the wild and picturesque beauties from point to point, to the westernmost extremity of the island; we shall be sure to find everywhere a combination of the beautiful with the grand, not easily matched in other parts of the British Islands, or indeed of Western Europe.

The highest part of the island is at Haut-nez, above Icart Point; and is 349 feet above mean tide. This elevation continues, with very little change, along the whole of the south coast. Towards the north, the land falls somewhat gradually; and at length dies away to the sea level, before the northern extremity of the island is reached. Until within a comparatively recent period, the sea, at high water, could wash across the island from the Grande Havre to St. Sampson's Harbour, crossing the tract of land called the Braye du Val; a part of which, though now reclaimed and cultivated, still contains a brackish-water pond,

from which the sea is kept out by embankments. It has been doubted, and, with some reason, whether anything has been gained by reclaiming this land, without leaving a ship canal of salt water. Beyond the Braye to the north, there is a tract of low ground, much of it covered with sand; and ledges of rocks extend in every direction, far beyond the extreme low water mark. Still beyond this, to the north-east and west, are numerous outlying rocks, rising out of deep water, to a distance of more than two miles. The largest of these rocks is the Silleuse.

A singular fringe of rocks, rising from the sea-bottom to the surface from various depths up to twenty fathoms, entirely surrounds the whole island of Guernsey. Off the steep south coast, the depth increases most rapidly, and the rocks are there nearer the shore than to the east, north, and north-west. In these latter directions, the number of rocks, at all times of tide, is almost countless; but at dead low water, they present an appearance only to be matched where coral reefs rise out of a tropical sea, as mushrooms out of the ground on an August night—limited only by the space open to them.

The most important of the defined groups of outlying rocks, towards the Channel, are the Hanois (Hanways), the Sambule and the Grunes,* which follow in succession parallel to the south-western side of Guernsey, at a distance of about two miles from the shore. The islet of Lihou, connected by a reef with the land at low water, is nearer, and requires separate notice. They are all either granitic, or veins in granite. The principal rocks are the Hanois, on one of which is a light-house. It is built throughout, in the soundest manner, of Cornish granite, each stone dovetailed, and the whole solid to a considerable height.

The middle of the eastern coast of Guernsey, from Vale Castle to beyond Castle Cornet, is called Belgrave Bay. It is a wide open bay with a shingle and sand beach, from which the land rises

* This name is given to rocks rising a little above low water mark in the neighbourhood of all the islands.

gradually into the interior, to a moderate height. The country behind is pretty, and the approach from the sea is picturesque. On the northern side of this bay are the small town and natural harbour of St. Sampson's; and at the southern extremity is St. Peter's Port, the principal town of the island. North of St. Sampson's, are the rocks, covered with loose sands, of l'Ancresse; and south of St. Peter's Port, the cliffs rise almost immediately, and are crowned by Fort George. Castle Cornet, situated on a ledge of rocks, about a quarter of a mile from the shore, was formerly disconnected, except at very low water, but is now united to the main island by the south arm of the new harbour.

St. Peter's Port presents a straggling frontage of nearly a mile and a-half towards the sea. Along the whole of this distance and beyond, nearly to St. Sampson's, the sea is kept off by a permanent sea wall and esplanade. The buildings near the sea are irregular, and for the most part poor; but not unpicturesque from a distance. Behind them the rising ground is much broken and is covered with houses and other buildings, rising one behind another, and crowned by several constructions of greater pretensions, though scarcely in better taste. Of these buildings, one of the most prominent and by no means the least pleasing, is the Victoria tower, commemorative of the Queen's visit in 1846. Another is the College, built in a style which it would be unfair to call Gothic, except in a sense now exploded. Castle Carey, built as a private habitation, but now the Government House, is another rather anomalous pile: these, with one or two churches, in a mongrel style, popular about half a century ago, but not at present in favour, form the more prominent objects: bad as they are, they cannot destroy the picturesque effect produced by the shape of the ground, and by the considerable variety of domestic architecture which still remains, and is characteristic of the island.

There is, however, fronting the sea, although in a position too low to command attention or attract notice from a distance, a

really important ecclesiastical building, known as the Town Church. It is far superior in design and execution, as well as in historical interest, to any old building within the compass of the Channel Islands, and might well bear comparison with many in England or the Low Countries. It is, unfortunately, still crowded with galleries, which interfere greatly with the effect, but it well deserves examination, and reflects the highest credit on all concerned in restoring it from the state of neglect into which it had fallen during the last century. It contains much new work added to and replacing the old. The style is Flamboyant Gothic, but with many marks of early work retained.* The painted windows are modern, but very good. A new window has recently been presented by the Lieutenant-governor of Guernsey, General Slade.

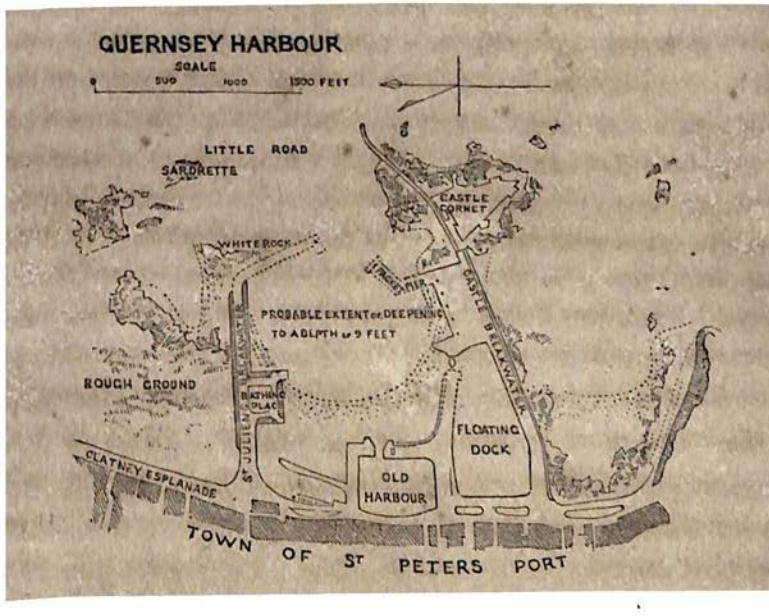
The most prominent near objects, on approaching St. Peter's Port from the sea, are Castle Cornet and the new harbour works. The former will be referred to presently. A portion of the latter, consisting of a magnificent sea wall, now connects and passes beyond the rock on which the castle stands, commencing at the southern extremity of the town; so that the castle and the works appear to form part of one great plan. This sea wall forms the south arm of the new harbour.

The old harbour of Guernsey, ordered to be built A.D. 1275, by King Edward the First, and in course of construction for two centuries, from 1580 to 1780, was only four and a-half acres in extent, and the quay-room was extremely narrow and restricted. Plans for its enlargement, still retaining the character of a tidal harbour, were submitted to the states in 1836, by Mr. James Walker, and subsequently, others by Mr. Rendell. The latter, though not very different from the former, were accepted; and their execution entrusted to Mr. G. Fosberry Lyster, on the recommendation of Mr. Rendell. Soon after the commence-

* A sketch of part of the interior will be found by referring to the index of illustrations.

ment of the works, important alterations were proposed; and it was decided that, instead of a mere tidal harbour, the natural features of the locality should be taken advantage of, the old harbour being entirely closed. It has also since been greatly improved. The whole of the alterations have been planned and carried out by Mr. Lyster.

An idea of the present harbour will be at once obtained by looking at the annexed plan. Two noble esplanades have been



constructed, one on each side of the old harbour, running parallel with the sea front of the town, their total length being 2500 feet, with a breadth of 150 feet. From the two extremities of this, spring breakwaters: one at the south extremity, reaching beyond Castle Cornet, and now nearly 2000 feet in length, connects the castle with the main land; the other, at the northern end, is incomplete. It is intended to run this out 1300 feet in an easterly direction, and then bend round 750 feet towards the north-east angle of Castle Cornet. Within this space will be enclosed, not only a large and excellent anchorage-ground of fifty-

seven acres, the whole covered at low water neaps, but the small old harbour, now an inner harbour, a space intended to form a floating dock of ten acres extent, building yards, a careening hard, and other conveniences for shipping. The space enclosed will amount to as much as seventy-three acres at low water, and is being dredged to nine feet, low water spring tides.

Landing-places for steamers, accessible at all times of tide,—slip-ways and berthing for vessels, offering every convenience for trade,—form part of the plan in prosecution; and a great length of quays, eighty-four feet wide, has been already constructed, in addition to the level roadway and footpath on the breakwaters. All these latter are carried to a height of from ten to fifteen feet above the highest tides; and two enormous massifs, or square emplacements, covering rocks, have been constructed,—one intended as a ladies' bathing-place, with bathing houses and hot water baths—and the other, at present left unemployed. On this it has been suggested that a first class hotel might with advantage be built.*

The masonry of the work executed for the harbour is of granite, and does the greatest credit to all concerned. Much of it is Cyclopean, doing away with the formality of level courses, and this without any sacrifice of strength, although with a great economy in labour.

Castle Cornet was a far more picturesque object when a detached island fort, in the time of Charles the Second, than it has since been. It could then well compare, in this respect, with Elizabeth Castle, in Jersey. Although much dismantled, it still contains many architectural gems.† For a long time, and till the year 1811, it was the island prison; but this use is now

* The parts of the plan not completed at the end of 1861, were the St. Julian's pier, beyond the bend, the packet pier, and part of the floating dock. These are marked with a dotted line.

† A view of the castle in its early state, carefully corrected from an old and scarce print, will be found in a later chapter. A view of the barbican is also given, and may be referred to by consulting the index of illustrations.

superseded by a building near St. James' church, immediately behind the Court House, in the centre of the town. The new gaol is, however, too small, and is ill adapted for its purpose. It is a singular fact, that all the modern buildings in the island are, without exception, singularly wanting in good taste; but whether this arises from want of cultivation, from the remains of Puritanical feeling, still very marked, or from absence of natural power of appreciating what is beautiful, is not easy to say.

St. Sampson's, the only other town, is much smaller than St. Peter's Port, and is now almost connected with it by houses and rows of buildings along the shore. It is a place of some business in connection with the stone trade, which is centred there, to take advantage both of the adjacent quarries and of the little harbour. Many improvements have been made in the harbour, and it is continually increasing in importance. There is little to attract or interest a stranger in the town; all the buildings, except the church, being small and of modern construction.

The harbour is entirely dry at low water, and was originally part of a small arm of the sea, which severed the northern portion of the island from the main land. It is only sixty years since this strait was permanently embanked at each end, and the intervening land reclaimed. The space forming the harbour is about 2000 feet in length by 500 feet wide, and encloses twenty-two acres of water, at high spring tides. A breakwater now extends 650 feet in a southerly direction from the north shore, and terminates 120 feet from the south pier head; and this work, recently completed, has greatly improved and sheltered the harbour.

The wide shingle bay, having at intervals large spits of sand, that extends between St. Sampson's and St. Peter's Port, has already been mentioned as presenting few features of interest. About half way between, however, there is a curious ivy-covered fragment of antiquity, called the 'Chateau des Marais,' better known as the Ivy Castle. It is surrounded by a fosse and by an outer wall, enclosing a space of about four acres.

To form an idea of Guernsey, it must be visited in two ways; for the interior gives but little idea of the coast, and the fine scenery of the coast seldom opens at all into the island. As a whole, there are few parts of the Atlantic coast of Europe where the cliffs communicate so little, by picturesque open valleys, with the interior of the country; but this arises chiefly from the fact, that the rock is everywhere granite, sloping with some degree of regularity in one direction. The natural fractures, produced by the elevation of the mass, have been already deeply penetrated by the sea, and have produced a multitude of detached islands and rocks, so that what remains consist of hard, rocky masses of table land, often high, but nowhere hilly.

It will be advisable to describe, first, the coast scenery, and afterwards, that of the interior; and, as the most convenient order, we may, with advantage, commence in the vicinity of the town, and notice the chief points of interest as we follow the line of cliff immediately to the south.

From the harbour, the sea wall continues for a short distance to a part of the coast called Les Terres, at which point the cliffs are precipitous, and a strip of public walks and gardens between them and the sea is now in course of arrangement. The ground thus utilised was laid bare during the construction of the harbour; and the mode in which an operation, which might have been unsightly, has been rendered decorative, is worthy of every praise. Two or three small bays beyond, included within the enceinte of the fort, and not accessible to the public, terminate at a small projecting headland, marked with a very unsightly white turret, serving as a sea mark. Fermain Bay, at the foot of the cliff at this point, is a pretty sandy cove, behind which is one of the few narrow glens opening into the interior. A road runs up to the right from the sands of Fermain Bay to the St. Martin's road, passing two cottage residences placed on the steep slope of the gorge; and a blind path, choked with furze and brambles, may be found to the left, and followed between

thick hedges up another branch of the glen, also to the St. Martin's road. Perched on a tongue of high land between these, is the park-like and well-wooded little estate of Bon Air, built by a former bailiff of the island. There is a private way through the gorse-covered sides and ferny bottom of the glen, from the house to the sea; and the annexed wood cut will give some notion of the exquisite beauty of the broken ground, and the mixture of cultivation and wildness in this part of the island.

HOUSE AND GROUNDS OF BON AIR.

From the narrow path just alluded to, a branch will be found close to the edge of the cliff, and an extremely picturesque path conducts to a small fisherman's landing-place, called the Bec du Nez, near which are two open, rocky caverns. Still further on, the same path enters a grassy and ferny hollow, below the Doyle column at Jerbourg. It is quite possible to reach this point at all seasons, at the risk of tearing clothes with brambles and wetting feet in the damp, boggy earth. From the hollow, which is

always rather wet, the shore may easily be reached, and it is well worthy of the effort. To the left there is a cavern, superior to any in Guernsey, except the Creux Mahie, and remarkable for its noble and simple proportions, and magnificent entry through and amongst huge, broken rocks. Turning to the left, as you enter, several fine fragments of rock and grand arched rocks conduct to an imperfect representation of a cavern and funnel well known in Sark, and called there, the Pot. The chimney, or opening above, is here much less lofty than in Sark, and the top is concealed by a thick growth of brambles. In this respect it agrees better with the Creux at Herm. In all these cases the hole has been originally produced in a soft vein, by rain water. The vein is a very dark green decomposing rock, and contrasts finely with the pink granite. It is continued across to a corresponding bay on the other side of Jerbourg promontory, called 'Petit Port.' Besides this vein, there is one of quartz, and several very interesting minerals are found near. The chief source of interest is, however, derived from the noble forms of broken rock, and the thick vegetation that comes down almost to the water's edge. Considering its wild beauty, it is singular that this little bay, so near the town, is not more frequently visited and better known.

Mounting the cliff at this point, we reach Jerbourg Point, where a column has been erected in honour of Sir John Doyle, a former governor, to whom the island was indebted for its roads, and for numerous improvements.

The views from hence, and also from the rocks about a quarter of a mile beyond, are very fine. The promontory on which the column is placed, forms the south-eastern extremity of Guernsey. It is the nearest point in the island to Jersey, being somewhat less than eighteen miles north-east of Cape Grosnez, in that island. The height of the cliff at the base of the column is about 300 feet. Beyond the foot of the cliff there are several detached rocks, rising out of deep water. The depth of water

almost immediately outside Jerbourg Point, and close to these rocks, is at least twenty fathoms.

Petit Port, Moulin Huet, and Saints' Bay, are small inlets of a large bay, with excellent anchorage, enclosed between Jerbourg promontory and an almost detached headland, called Icart Point, about a mile and a-half to the east. There is good shelter in this extremely picturesque bay from all northerly winds; and it might have been selected with advantage for a harbour of refuge, as the entrance, except near Jerbourg Point, is entirely free from rocks. The ground close to the shore is generally rocky, although at intervals there are small coves, with sands adapted for bathing.

Each of the small coves is worthy not only of a visit, but of prolonged study. Every visitor to Guernsey is taken to Moulin Huet,* the central and most important of them; and few parts of the island are more crowded with exquisite morsels of rocky scenery. Petit Port, smaller, and not easily reached, is hardly inferior, and Saints' Bay is a charming little bathing-place.

From Saints' Bay we may scale the hill side through furze and brake to Icart Common, and thence proceed along the cliffs towards Icart Point. Passing a small farm-house now occupied, and a ruined house behind it, we come upon a steep slope of ground, thinly covered with coarse grass, and often very slippery. Down this slope, any one accustomed to clamber will walk securely enough, till he or she reaches a singular isthmus, almost corresponding to the Coupé of Sark. The sea on both sides has at this point eaten away a narrow passage, through a vein of softer rock than the granite beyond, leaving a natural causeway about five or six feet wide, and several yards in length, on either side of which is a precipice of some sixty or eighty feet.

There is much less action of the weather on the surface here than in the island opposite; but in other respects Icart Point

* A view of Moulin Huet, taken from Jerbourg, and showing the proportions of Icart Bay, is given in a later chapter. *See* index of illustrations

and its isthmus strictly correspond with Little Sark and its Coupé. The sea and rock-views, both from the extremity of the point, and from the shore below, which can be reached at low water, are very fine. From the higher point the whole of the two receding sweeps of coast, the one east to Jerbourg, and the other west to Moye Point, are within view. Both are picturesque and finely broken, and are characteristic of the island. That to the west has been already described. The other is as nearly as possible of the same width, and recedes to about the same distance, but is more regular.

To the west of the centre is a small cove, called Petit Bot, reached from St. Martin's by an extremely picturesque Welsh valley, watered by a small stream, which turns a mill at the bottom, where another valley, equally picturesque, comes in from the Forêt church. The little cove itself has a wide spit of fine sand at low water, and at its western end is a bold, rocky cavern, often visited, and celebrated as the abode of a somewhat rare fern, the *Asplenium marinum*. Those, however, who would obtain specimens, must provide themselves with some means of reaching high up near the roof of the cavern, as plants growing near the ground have long since been carried away.

The headland that forms the western extremity of Icart Bay is Moye Point.* It is bold and precipitous, rising at once from tolerably deep water, and is the last prominent point along the south coast. Beyond it to the west there is a succession of indentations of the coast, not amounting to bays, but producing very picturesque scenery, and at intervals interrupted by narrow gorges. The best of these is called La Corbiére,† and is about

* *Moee*, a mass of stones, old French; *Monceau* is a word similarly used in Herm. Moye is used in Jersey and Sark as well as Guernsey. In all the islands it refers to a dangerous headland. Many of these ancient names are now inapplicable, owing to the destruction of the coast that has taken place.

† The haunt of the *corb* (cormorant, or sea-raven). This name occurs also in Jersey.

another mile to the west. The Gouffre is a fine intermediate point of view, often visited. The Corbiére exhibits much varied scenery, and several veins of dark greenish rock traversing the pinkish and grey cliff, give additional interest to the view. A very accurate representation of it is given in the chapter on geology. A path down to the sea at the Corbiére, enables the pedestrian to obtain a noble view of the deep, rocky indentations of the coast at this point.

About a mile from the Corbiére is the Creux Mahie, the largest cavern in Guernsey. The approach is not difficult, but the mouth of the cavern is almost closed by large blocks of stone, either drifted up by the sea, or fallen in from above. A vein of decomposing rock entering the cliff nearly at right angles, is the origin of this, as of many of the caverns in the Channel Islands. When once entered, the space is found to be large for a granite cavern, opening out into a natural hall, 200 feet long, with a width of forty or fifty feet, and a height of from forty to sixty feet. Beyond this there are smaller crevices.

Among the most striking examples of the cliff scenery of Guernsey, are those near the south-westernmost angle in the neighbourhood of Pleinmont, commencing at the Gull Cliff, and passing several rocky headlands to Pezerie Battery. One may walk along the edge and side of the cliff for more than two miles, on a succession of jagged promontories, connected by narrow necks of rock with the main island. At each point a fresh view is opened. The coast is everywhere deeply indented, and there are some detached islets close in shore. Besides these the group of rocks called the Hanois, already alluded to, come into sight, and add much to the picturesque effect. These rocks are an extension of the south-western extremity of the island, and are very easily recognised. At high water the waves dash angrily on the shore, between and among the half-detached rocks, and conceal the numerous ledges and reefs that render this coast so dangerous. Seated on one of these headlands of

the south coast, and tracing the in-coming or out-going tide on its restless course of destruction and renovation, no one can fail to recognise the mode in which this part of the island of Guernsey —the loftiest part, and that rising out of deepest water—is continued by many ledges of rocks and rocky islands, far beyond the land; and also how the land itself is still being encroached upon, so that the present cliffs will be turned into similar rocks.

These geological remarks, it is true, belong rather to another chapter than to the description to which we are here limited; but as they greatly help to explain the physical features of the whole group of islands and rocks, and as these can only be rightly considered in their mutual relations, such incidental allusions are not altogether out of place.

The dangers incurred, if the Hanois rocks are approached too closely, are so great, and the chances of destruction in foggy weather so terrible, if a ship should miss the lights on the English coast, by making too southerly a course, that there has always been great need of a warning here. The question of its erection has frequently been discussed between the Corporation of the Trinity House and the States of Guernsey, and it is only very recently that the decision has been made to place a Trinity light in this important locality.

Past Pleinmont Point and the Pezerie Battery, the coast scenery of Guernsey changes entirely. The continuous rocky and precipitous cliffs drop down to the sea level, or recede into the interior, but bare jagged rocks and rocky ledges are continued out to sea in numerous reefs and islets. A vast floor of rocks is laid bare at low water, and covered at high tide, in the open bay of Rocquaine, the first of the flat bays on the south-west coast, but large sweeps of sand partly conceal them.

Rocquaine Bay is well named, as it presents a bristling array of rocks, stretching out seawards more than two miles, and terminating on the south with the Hanois rocks, and to the north by a reef some distance beyond Lihou. The Bissets are de-

tached rocks, opposite the middle of the bay, rising out of deep water. It would be very difficult to mark and number the rocks jutting out of the water at all times of tide in this bay, and the effect seen from the cliff above Pezerie is very picturesque.

Lihou is a singular and interesting spot. It is a detached extremity of the northern arm of Rocquaine Bay, and is two miles in a direct line from Pezerie, from which it bears nearly north. It may be regarded as the extreme north-westerly extremity, jutting out into the sea, of the belt of high land in the south of Guernsey, the corresponding point on the eastern side of the island being Castle Cornet. Castle Cornet on the east side, and Lihou on the west, occupy, indeed, corresponding positions; but Lihou is very much the larger, being about 600 yards long by 150 wide, including, therefore, about eighteen acres, while Castle Cornet is only large enough for a small group of buildings. Lihou is nearly rectangular in form, and its greatest length is from east to west. It is connected with Guernsey at Le Réc Barracks by a rough causeway, about 700 yards long, covered during at least half of every tide.

Lihou is one of the few places in the Channel Islands where there are ruins of monastic buildings which have some architectural pretensions, although without much decoration. At the beginning of the present century they included interesting remains of a chapel, dating so far back as the commencement of the twelfth century, some fragments of which may still be traced. These belonged to a priory, which was surrounded by cultivated land and gardens. There is a good deal of fine rocky scenery about the island, and some capital rock pools contain much to interest the zoologist.

Beyond Lihou there are four sandy and rocky bays (Le Rée, Perelle, Vazon, and Cobo), terminated by the headland called Grande Rocque, a picturesque, but not lofty mass of granite, about three and a-half miles to the north-east. This part of the coast has a very different character from the southern part;

and, although in its way highly picturesque, especially at the season of gathering sea-weed, there are no cliffs, and the land near the sea is low and marshy. Beyond Grande Rocque something of the same character of coast prevails as far as Grande Havre, where the sea formerly entered. Between this and St. Sampson's there was formerly a salt marsh, separating the northern part from the main island.

The inroads of the sea all along this coast have been checked, wherever necessary, by a sea wall, which also interferes with and prevents the advance of drifting sands. The sea breaks heavily on the rocky floor of the bays, and there can be little doubt that the condition of this part of the island has been considerably improved since the road and sea wall were constructed, and the land was reclaimed.

Mention has been made of the coast scenery from Pezerie Battery to the Grande Havre, as full of interest and beauty, though neither bold nor backed by any amount of rich cultivation in the interior. The multitude of rocks, all covered by sea-weed, afford points of view, and varieties and contrasts of colour, an accurate representation of which, by first startling and then convincing a somewhat unwilling public, have established the reputation of the admirable island artist, Mr. Paul Naftel, who being determined to render them conscientiously, without regard to conventional rules in such matters, has succeeded in creating a sound natural taste for, and admiration of, them.*

Few scenes, indeed, are more striking than these bays when the peasants, anxious to secure their harvest of weed, are busied either removing it from the rock, turning it over to dry, or stacking it for winter use. The seasons selected for this are spring and autumn; spring, when the intense orange yellow of

* That Mr. Naftel's powers of drawing are not inferior to his taste in colouring, will be evident by the numerous illustrations drawn by him on wood for the present work. None but an island artist could have so well represented the island scenery.

the gorse is dazzling in its intensity on the hill side; autumn, when the fern is acquiring that rich burnt brown that forms so fine a contrast with the yellow and colder browns of the rocks, and their living coats of lichen. Rare and difficult studies are here afforded for the genuine artist; studies by which lovers of art for its own sake, and artists who prefer grappling with a difficulty to rendering familiar scenes in a stereotyped manner, will learn much, and may perhaps unlearn yet more.

We have now reached the northern extremity of the island, which not long ago was almost detached, and is in parts little above high water mark. The neck of reclaimed land connecting Guernsey with L'Ancresse, its northern end, is called the "Braye du Val," or more generally the Vale. L'Ancresse is for the most part common land, and consists of granite rock, covered with blown sand. No part of it is high, but the floor of granite rises in hillocks from a few yards to sixty feet.

In the northern part of this higher plateau, and permanently above water, are two or three sandy and rocky bays of some interest. L'Ancresse Bay, and Bordeaux Harbour,* are the most extensive, and the latter, close to the Vale Castle, is picturesque. Several old towers and modern forts are placed at intervals along the coast, chiefly on the various headlands, and on the sandy surface of the common are some Druidical remains, in a good state of preservation.

Vale Castle has long ceased to have any other use than as a small barrack, but the exterior is not without a certain amount of picturesque effect,† and the view from the slightly raised ground outside is one of the prettiest in Guernsey. The eye takes in at once the wooded scenery of the Vale and the rising ground thence towards the Catel, the town of St. Peter's Port stretch-

* Bordeaux Harbour is of special interest to the zoologist, as it has yielded many rare and beautiful specimens for the aquarium. There are many rocky pools at low water, and the tide runs out to a great distance.

† The gateway will be found figured in another chapter.

ing out below in a semicircle, and the coast-view terminating with the harbour and Castle Cornet. Behind this is seen an upper terrace; the high plateau of the south of the island, which rises boldly, and is seen as far as Jerbourg. At one's feet is the harbour of St. Sampson's, with its shipping. Turning round, innumerable rocks are perceived at low water, almost connecting L'Ancresse with Herm; and another totally different, but almost equally picturesque view, is obtained over the northern part of Guernsey.

From various points in the interior, especially on the rising ground near the Fort, and on the road to Catel, views of the northern part of the island are obtained, which are singularly picturesque. Black reefs of rock, both to north-east and north-west, but especially the former, are seen running out like spiders' legs, at low water; and the form of the land, gradually sloping and little interrupted by hills, adds to the effect. In these cases there is a mixture of land and rock scenery, with distant sea and occasional islands, altogether peculiar to Guernsey, and not in any way represented in Jersey.

The valleys, gorges, and glens of Guernsey must now be referred to. Of inland valleys there are few, and they are not very important, though two or three are not unworthy of notice. Thus, behind and not far from St. Martin's church, the little dell, called 'Haviland,' deserves a visit, for its mixture of wild, rocky hill, with pretty houses, gardens and trees. In St. Andrew's there is a singularly beautiful valley, to reach which a cross road must be followed, but which can be seen in a drive from the town towards the north-western coast. Perhaps the prettiest of all, however, is at St. Saviour's, seen in going towards Perelle Bay, and exhibiting, at all times of the year, a variety of rich-wooded and cultivated scenery, with picturesque houses and cottages. There are many other very pleasing, quiet, valley scenes, unconnected with the sea; and besides them, are not a few where the distant expanse of water, studded with

islands and rocks, lends a peculiar charm to the woodland scenery.

There are several glens of great beauty. First, and most remarkable, is the double glen leading from the bay called Petit Bot. The character of the scenery in both branches is bold, and such as to give an idea of far greater magnitude, both of height and distance, than a reference to actual measurement would warrant. There are hardly any trees; but the forms of the rock are simple and effective. One of the branches, opening from the road near Icart, will remind the traveller strongly of North Wales. Another, opening from near the Forest church, is yet more Welch. Both are covered with heather and gorse, so that in early spring and late autumn they are luxuriant and brilliant. There is a third narrow way between the other two, through narrow paths overhung with trees.

The glens opening into Fermain Bay are much smaller, but more wooded, and the sea view finer than at Petit Bot. They have been already alluded to. The approach to Moulin Huet is totally different, and introduces a new element, as some small streams here trickle down to the sea, and the paths, often crossed by the little rills, making their way onwards, are enclosed on each side by tall hedges or steep, stony banks. They are called 'water lanes,' and are characteristic of the island.*

A rich harvest of ferns, especially of the broad-leaved harts tongue,—innumerable brambles meeting overhead, and loaded with fruit in the autumn,—a carpet of flowers in the spring;—these are beauties that the reader may say are neither confined to water lanes nor to the island of Guernsey; but they are very pleasing and charming in the narrow winding path leading to Moulin Huet, with its stream of pure water sparkling through the middle, and the granite here and there showing itself in a small quarry. Some way down—for the lane descends rapidly—the view opens out towards the sea, revealing several pointed

* One of them is figured in the chapter on the botany of the islands.

pinnacles of rock, with the beach below, and a charming little gorge, with a few ruined houses and sheds in the middle distance. Words do not fitly describe scenes of this kind; but they may be worth something if they remind those who are familiar with such scenes of thoughts and feelings they have suggested, or help the stranger to become acquainted with what he might otherwise pass by. The real source of the beauty of this spot lies, no doubt, in the ever-changing effects at all times and seasons; the freshness and life derived from the running stream; and the exquisite and sudden shifting of the scene, by the occasional introduction of the sea, with its numerous rocks and islets, and the enclosing cliff.

Rivers in Guernsey there are none; nor is there a stream of any kind that boasts of a name. Such natural drainage as there is, follows the fall of the land, branching off to the sea on the north-western and north-eastern shores. There are a few ponds, but no other waters on the surface. Little rills trickle down most of the glens and gorges to the sea.

The properties in Guernsey are for the most part very small; and there are hardly any estates large enough to render park scenery possible. The orchards, also, which in Jersey may be said to replace parks, are not very numerous. Still there is a fair share of wooded scenery, the trees being small but much less stunted and much more regularly grown than might be expected. The best gardens are almost everywhere enclosed, and hardly can be said to add to the beauty of that part of the island seen by the tourist. They may, however, be easily visited by strangers; and many of them are extremely beautiful and remarkable for the variety of foreign trees and shrubs, rare in England, but here growing luxuriantly, without risk of frost and cold. The garden of the lieutenant-bailiff (Valnor) is that which contains the richest variety of foreign shrubs and trees. These have been planted with great taste and perfect success, and will be again alluded to in the chapter on horticulture.

The churches of the island are not unpicturesque at a distance, although almost all have lost the stone tracery of the windows, and have been greatly neglected. Most of them have low spires; but St. Saviour's and St. Peter's-in-the-wood have towers. There are some interesting morsels of Norman work in some of the doorways, especially the Vale* and St. Martin's.

PORCH OF ST. MARTIN'S CHURCH.

The interiors of all the parish churches have vaulted roofs, but they are very badly pewed. There are some modern district churches; but Cobo is the only one that has the smallest pretensions to architectural beauty or good taste. Torteval is frightful; but is hardly worse than the district church of St. James', in the town of St. Peter's Port.

Of the houses, there are few that require much notice. Most of the principal mansions and manor houses, whether old or new, are placed so as to exclude a sea view, and built so as to take as little advantage as possible of any natural beauty in the vicinity. Saumarez manor house, formerly occupied by the family of

* A sketch of the porch of the Vale church is engraved in another chapter.

that name, and the Haye du puits, belonging to the Le Marchant family, are good examples of manor houses thus placed. Woodlands is prettily placed; and St. George is surrounded by grounds that have more of the character of an English park than is usual in the island. There are two or three good houses near the Câtel church, but they are all remarkable for the absence of any extensive sea view. Haviland house is large, and somewhat in the style of an Indian bungalow; but the situation is very bad.

Of modern houses, the Vallon at St. Martin's is a quaint but picturesque house, placed at the head of one of the branches of the valley opening down to Moulin Huet. The view from the house, gardens and grounds, are chiefly confined to the richly-wooded dell in which they are placed; the sea here, as is generally the case in Guernsey, is carefully shut out. Still, there are few prettier places of its kind.

The house called Bon Air, on the St. Martin's road, has already been alluded to (see page 45). The grounds behind are wooded, and the hill-sides are covered with furze and brambles. Perhaps there is no position in the whole island that excels this, in the exquisite intermingling of land and water scenery characteristic of Guernsey. Fine views are obtained from the windows of the house as well as from the grounds.

Many houses in and near the town are well placed for a sea view; but few of them combine wood with water. The house called Candie, the residence of the present bailiff; Castle Carey, at present the Government house; and the adjacent residences, Les Coutils and Beau Séjour,—are all placed so as to look upon the sea and on the numerous islands to the east. Candie is remarkable for a gigantic myrtle on the wall of the house, facing the road. In the garden are noble magnolias and orange trees, growing unsheltered in the open air, on which annually ripen thousands of fruit. At Beau Sejour are three almost fabulous camellia trees.

The military defences of Guernsey are on a large scale, and

important. A cordon of detached forts, connected for the most part with barracks, has been placed round those parts of the island where the cliffs are low enough to offer no difficulties to an enemy's approach; and there is one strong and large fortress (Fort George), mounting a large number of heavy guns, and tenable from the land for about thirty days. This fort, like that at Alderney, could only be taken by a large attacking force, provided with siege train, and by an enemy having command of the Channel. The main security, however, both of Alderney and Guernsey, is derived from the extreme variety and complexity of the currents, the great range of the tide, and the multitude of rocks and shoals that beset the passages by which ships must approach. The island thus possesses the defensive strength of the porcupine and hedgehog, if not the massive proportions of the lion and elephant.

Cornet Castle, though formerly important, has ceased to be of much value, except against small attacks; and the rock of Brehou, between Vale Castle and Herm, although mounted with heavy guns, could hardly be used against an enemy. Vale Castle is now only a barrack.

Many of the farm houses throughout the island are interesting; partly from their antiquity, and partly for historiettes connected with them. Most of them have good doorways with semicircular granite arches that have stood without the slightest injury for many centuries. A pretty sketch of one of these very characteristic doorways forms a tail-piece to this chapter. These houses are placed generally in sheltered positions away from the sea.

The roads of the island are now excellent, and reach to every part. They are, however, a very recent innovation, and are due to the exertions of one of the governors, Sir John Doyle. Less than fifty years ago, in a speech in which he urged the inhabitants to submit to the somewhat heavy tax necessary to construct, systematically, a good net-work of roads throughout the island, it was politic to submit such remarks as the following:—

"One should think that in the nineteenth century, it would not be necessary to use many arguments to prove the utility of good public roads of communication. * * In this respect, we are two hundred years behind the rest of civilized Europe * *

"It will be acknowledged that nothing is more conducive to health than exercise. In this country, if a man wishes thus to benefit his health, he must do it at the risk of his life. * * If the wife or daughter of a gentleman here is ill from the want of exercise, she is immediately ordered to England, at the risk of the sea—at the risk of the enemy, and at a considerable expense; and the husband, or father, must separate from her, or give up his business."

The roads since constructed were admirably designed, and have been well executed. They enable the visitor to drive round the island and cross it in every direction; but they are not formal, and they neither seek nor altogether avoid differences of level. Where they proceed along the coast, near the sea, as from Pezerie to Grande Havre there is generally a sea wall defending the road, and except where the trees are allowed to overhang them, the water runs off within a very short time after rain. Not only have the roads been originally well made, but they are also kept in good condition, so that little is to be desired in this respect.

AN OLD COTTAGE DOORWAY

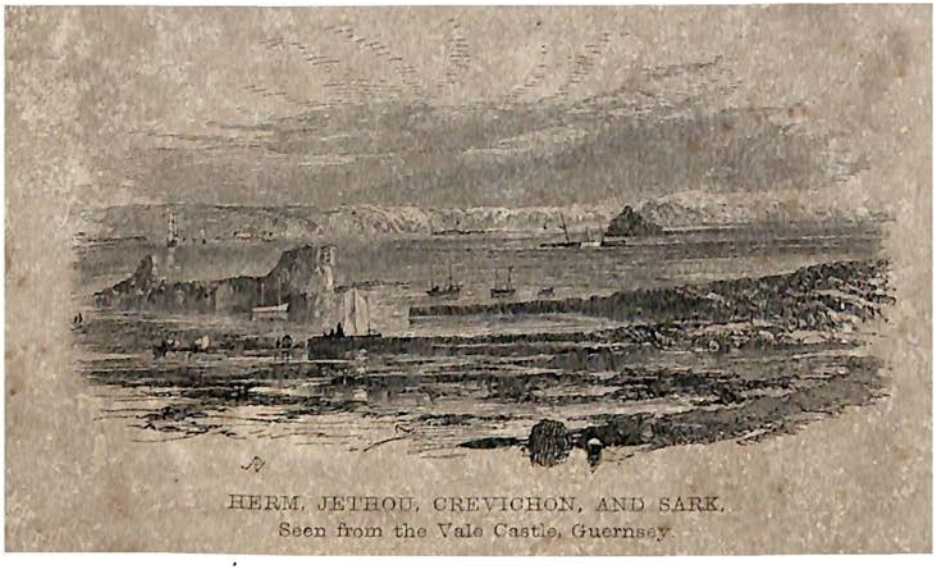
CHAPTER IV.

ISLANDS AND ROCKS NEAR GUERNSEY.

The east coast of Guernsey is separated by a narrow channel from a formidable group of rocks and islands, ranging north-east and south-west, and nearly parallel to the main island. This channel is called the Little Russel, and in the narrowest part, opposite Vale Castle, there is not more than seven fathoms water. The whole group of islands and rocks is nearly six miles in length, from the Anfroque to the Ferriére rocks, and the width is about two miles. It includes Herm and Jethou—both inhabited—Crevichon, with a few other rocks, partially covered with vegetation, and Brehou, on which a small fort has been constructed. There are some other large detached rocks always above water; many others that are exhibited only during a part of each tide, and a multitude quite as dangerous as these, that never appear at all. One of the most dangerous rocks in the Little Russel is the Roustel, which lies exactly in mid channel, and only shows within two hours of low water.

An area of nearly continuous broken granite, laid bare at low water, extends for about two miles beyond the northern extremity of Herm, the principal island of this group. Except two narrow channels, there is no important break in the rocks, and they connect with a similar group about half a mile wide, projecting beyond the west coast of Herm, looking towards Guern-

sey. Close to Herm, and forming a tongue at its northern extremity, there is a spit of low, flat land, which extends some distance seawards.



HERM, JETHOU, CREVICHON, AND SARK,
Seen from the Vale Castle, Guernsey.

HERM.

That part of the island of Herm permanently above water, is an irregular oval, measuring about a mile and a-half from south to north, and half as much across. As in Guernsey, the southern and eastern part of the island is high and precipitous, while the western and northern parts are lower and more accessible. The low grounds of L'Ancresse are represented in Herm by the long stretch of beach already alluded to; but while in Guernsey the sand is entirely quartz, in Herm it consists exclusively of small shells and fragments of shell, ground into a powder by the sea. On the north-eastern side of the island is a small bay, similarly provided with a shell beach.

The summit of Herm is flat. There is a valley at the north end, opening out to the smaller shell beach, and a well-marked through narrow depression on the south side, near Jethou. The central table land is, for the most part, cultivated; but the slopes,

especially near the sea, are still wild and covered with coarse, wiry, tufted grass, brambles and gorse. Among them it is difficult to walk. It is possible, however, to make one's way round by the cliffs and scramble down to the rocks at various points, although at the risk of being embayed, should the tide be rising.

The scenery of the coast is remarkable. A beautiful white and black granite rock forms the hard back bone; and may be recognised at intervals, around the coast, sometimes projecting from the ground in jagged pinnacles, sometimes seen in boulders and detached rocks. This granite is intersected by many wide veins, extremely variable in their nature, but generally either soft or readily decaying. Deep ravines have consequently been cut by the sea at various places, terminating in small caverns; none of which, however, run in very far. Where the vein is decomposing it turns readily into soil; a great thickness of micaceous sand and fine gravel exists at the surface, and the entrances to the caverns are, in these cases, deeply and richly fringed with ferns, whose brilliant metallic green singularly and beautifully contrasts with the peculiar square, hard lines, produced by the parallel walls and straight top of the sides and roof.

But besides these caverns, eaten in by the sea, there is also a noble creux* in this little island. The top is about as large as the Pot in Sark, but the depth is less considerable. At the bottom is a tunnel, communicating with the sea. The origin of this creux is clearly to be traced to the action of water from the surface; and is quite unconnected with the sea; although, no doubt, when the water had once made its way downwards and a channel at the bottom was opened, the carrying away of the fallen rubbish greatly facilitated the enlargement of the hole above.

Singularly wild and picturesque are the rocky bits to be seen

* The word *creux* (a hollow space), already made use of, is applied in Guernsey to a cavern, but elsewhere in the Channel Islands it means rather a funnel-shaped depression or shaft, communicating at the bottom with the sea by a kind of tunnel. Occasionally, the walls of this tunnel are broken away.

at the back of Herm. Some rocks, now quite detached at half tide, are worn into battlements and pinnacles; blackened, and presenting all the features of a ruined mediæval castle. Some large, flat expansions of hard, but much weathered rock, afford a kind of irregular pavement, on which those shod with stout boots can walk pleasantly enough, except when it is interrupted by deep fissures with vertical walls, serving as inlets to the sea. Here and there is a Cyclopean mass of ruined masonry, of nature's own construction.

It is in many places almost impossible, or at any rate, very troublesome, to get down to the sea at the back of Herm; but when the coast is reached, and with a falling tide, a large part may be walked over with only the ordinary difficulties of cliffing, and with more than the ordinary satisfaction derived from doing a difficult thing, owing to the nature of the veins, and the variety of minerals met with in a short space.

The granite of Herm has been quarried to some extent. It is probably sound; but, on the whole, it seems to decompose more rapidly than that of Guernsey. At any rate, parts of it make an excellent soil, which would repay any amount of cultivation.

The land of Herm is in many parts rapidly encroached on by the sea. All round the southern and eastern shores, there is evidence of very recent land slips, and considerable portions of the cliffs are only kept in their places for a time by the roots of brambles and ferns, matted together; or by the grasses which grow on the surface in large tufts. It is quite evident that every season must produce a change, and that the destruction can hardly cease, so long as the island holds together.

The numerous rabbits that abound both here and in the adjacent still smaller island of Jethou, are at once a proof of the decomposability of the granite rock, and a cause of the destruction going on with greater vigour than might otherwise be the case. The rabbits take advantage of the sandy sub-soil, where the granite has become rotten, and the long holes they burrow

tend to weaken the face of the cliff, by facilitating the passage of water.

Nowhere very high, though generally lofty enough to be quite inaccessible, the hills and cliffs of Herm subside towards the north, terminating there, as has been already said, in a broad expanse, covered very deeply with innumerable fragments of shells. It is a curious sight to watch these sands; sometimes a vast solitary blank, without a pebble, a ripple-mark, or a worm-cast upon them—one mass of myriads of shelly particles and shells; at other times, during an excursion from Guernsey, peopled by scores of women and children sweeping into their bags this great wealth of cowries and limpets, and separating from the mass before them all that seems most beautiful or valuable.

It is not easy for a stranger to trace the cause of so extensive a shell beach at this particular part of the Channel. There is nothing of the kind elsewhere in the whole group of the Islands, although at Vazon and other bays in Guernsey, and St. Aubin's Bay, St. Ouen's Bay, and elsewhere in Jersey, there are not wanting sands of considerable extent. The shell beach of Herm is quite a different thing from these sands, which are composed of quartz or of pounded granite.

A careful consideration of the course of the tidal wave, and the circumstances under which it passes through the two channels of the Great and Little Russel, will, however, explain this anomaly. While a part of the main wave sweeps towards the north-east through all the channels, that portion which has reached the French coast, being turned backwards, produces a north-westerly wave running along the coast of the Cotentin, and expanding when past the rocks north of Jersey. The north of Herm is the point of land where there would be slack water, from the meeting of these currents a short distance to the north; and a submerged island between this and Herm effectually protects the coast from any eddy that might otherwise disturb the shelly

sands once accumulated. The shell sand being lighter, accumulates at the tail of the drift.

There are two farms in Herm both occupied by thriving proprietors. Each farm has a house and several buildings. An indifferent road connects these, and leads from the pier, which only serves as a landing place when the tide is high. At other times, the landing is on the rocks, and is not pleasant for ladies and those unaccustomed to walk over rough boulders, slippery with the water that has recently washed over them.

This island is much visited from Guernsey. During the season of 1861, one of the Herm farmers and fishermen, who is also a boatman, stated that he had himself carried over nearly two thousand persons. Other boatmen from Guernsey, and the steamers, which not unfrequently make excursion trips, probably doubled this number of visitors.

Except, however, for those able to reach the back of the island and scramble among the rocks and round the cliffs, to enjoy the views over Jethou and Sark, there is little that is attractive to the tourist. Indeed the shell beach is to most persons the chief point of interest, and the great attraction of Herm. The view of Guernsey from the landing-place is good, but not equal to that seen in crossing; and the west and north sides of the island, which are those most frequently seen, slope gradually towards the sea, and are less picturesque than the south side.

Traces of copper ore are said to have been found in veins in the granite of Herm; and mining operations were at one time commenced. The chief mineral product of the island is, however, its granite; although, owing to the variable and often decomposing character of the rock, this also has been neglected. No doubt good material might be selected; but the veins of rotten stuff are numerous and large, and there would always be a risk of taking bad with good. It is hardly equal to the best black Guernsey granite for macadamised paving and curb stones.

So long ago as the middle of the fifteenth century, we learn

from documents that means were taken for the supply of religious instruction in Herm, proving that the population was at that time very much larger than at present. Even of late years, however, there have been frequent and great fluctuations in this respect, according as at different times the resources of the island have been made use of or neglected. It has recently been leased by a gentleman, who proposes to carry on larger operations than have been undertaken for some years.

The last important works in the island were carried on about thirty years ago.

The owner of the island at that time had entered into a speculation to supply granite, both for building and paving; and for this purpose a harbour and pier were constructed, an iron tramway laid down, houses built, and other conveniences and appliances for a fixed population introduced. Stone was at first extracted in very large blocks, and favourable reports were made of its beauty and quality. After a time, however, the owner disposed of his interests to a company; and shortly afterwards the company was dissolved, the quarries were abandoned, the harbour and pier neglected, and the whole establishment collapsed,—the island being offered for sale without even finding a bidder.

In former times, there would seem to have been much game of various kinds in Herm. Thus, in 1716, an inquest was held "for the discovery of certain persons who had killed stags, roebucks and pheasants, on the island, contrary to the ordinance;" and it is recorded that the last two deer were killed about the year 1773. Rabbits, we have already said, are common, and the soil is eminently favourable for them.

Small as it is, many hours may be spent with advantage in this island; and its resources are by no means exhausted in a single visit. To see all that it contains of interest, several days would be needed, even without taking into consideration the shell beach, which, to the conchologist, is absolutely inexhaustible. The appearance of the island, at high and low water, is

so different, that it would hardly be recognised as the same by an occasional visitor; and to see this difference to advantage involves several visits.

Herm has good fresh water in natural springs, and in two places there is running water. Fresh water may be seen trickling down within some of the quartz veins traversing the granite; and no doubt a supply might be obtained from wells sunk into the solid rock.

There are scarcely any trees in Herm.

There is no military occupation of Herm, as it could be of little value to an enemy. Indeed, the absence of a sufficient landing-place, and of roads of any kind, except between the two farms, would greatly interfere with any attempt to render it available, even if it were not commanded by the guns of Fort George, whose distance, however, is as much as 7000 yards. The whole coast of Herm is exceedingly dangerous at all times.

JETHOU.

A narrow passage, of a few hundred yards in width and not very deep, separates the south-western extremity of Herm, at low water, from a singular and very picturesque group of three islets,—one, in the centre, being a round hummock of granite about half a mile in diameter;—the others, much smaller, pinnacles of granite, nearly equi-distant from the central rock. Nothing can be more picturesque than the whole group, as seen either from Herm or from a boat approaching that island from Guernsey.

The central rock of these three is not only by far the largest, and covered with vegetation, but boasts of human inhabitants. It is a private estate, partly under cultivation, but chiefly valuable for the rabbits it contains, and the stone of which it consists. There is a tolerable residence upon it with outhouses, besides a small plantation, and several clumps of trees.

Except towards Herm, the sides of Jethou are precipitous, and without a landing-place. This island is higher than Herm, and looks conical, but the summit is table land, and cultivated. It has a creux corresponding to that on Herm, and the cliffs are fine and bold.

The islets near Jethou, both of which are surmounted by white sea-marks, are not very large, but are, from some points of view, remarkably symmetrical. At certain times of tide they are cut off by water from the central islands. The one towards Guernsey is the larger, and is called Crevichon. It has some vegetable growth upon it, but is too small to be inhabited. There is an old quarry on it, which forms a picturesque object at a little distance.

To the south of Jethou, a number of rocks rise out of comparatively deep water in sharp, jagged, and dangerous pinnacles. These are called the Ferriéres, and are seen in greater or less number, according to the height of the tide, for a distance of about two miles. Between these rocks are dangerous passages. The space they occupy narrows gradually towards the south; and the depth of water around, and often that immediately outside them, is generally nearly twenty fathoms, on the side towards

SECTION OF SEA-BOTTOM AND ISLANDS FROM GUERNSEY TO SARK.

References.

1. Anfre rock.
2. Great bank.
3. Sardriére rock.
4. Rock at nine fathoms.
5. La Grune rock.
6. Brechou island.
7. Sark.
8. Burons islands.

Scale of distances. 5000 yards = 1 inch; heights, 200 yards = 1 inch.

Sark. On the west side, there are few places in the Little Russel where there is more than fifteen fathoms water, but the

rocks are more thickly grouped. The southernmost rock of this group, called the Sardriére, rises out of water upwards of 120 feet deep on three sides, and is curiously connected with the isle of Brechou, close to Sark, by two pinnacles of rock rising in the same way,—one to within thirty, and the other to within fifty feet of the surface,—from water 180 feet deep, the distance (about three miles) being divided into three parts by these rocks. On the other side there is an important bank, less than a mile from Guernsey, intervening between this same rock and the Guernsey high land. The diagram in the last page will give an idea of the state of the sea-bottom at this part of the Channel.

SARK.

With the exception of the two dangerous rocks just alluded to, Sark is separated from the Herm group of islands and rocks by a tolerably wide and open passage, with from twenty-five to thirty fathoms of water, called the Great Russel. Although, however, it is usual to speak of Sark as one island, it is like the others, a group of islands, islets, and rocks, of which the number is very considerable. In describing it here, we allude first to the group, and afterwards to the largest and most important member of it.

Great Sark and Little Sark form one connected island, the connecting link being a natural causeway, at an elevation of nearly 300 feet above the sea. Beyond Great Sark to the north, and Little Sark to the south, are a number of islets, which we may regard as recently detached, and several islets and rocks, separated at a more ancient date, and much lower and smaller.

On both the east and west sides are other and much more important pieces of land; one, the island of Brechou,* looking

* *Brechou*, or Brek'hou; the islet of the gap or breach (*bréche*, Swiss French, or *brêke*, old Dutch).

towards Guernsey; the other, the "Burons," a number of islets on the east side. The relative importance of these will be seen by a reference to the diagram in page 69. Rocks appear at intervals nearly three miles beyond the Sark coast on the east, after which there is a clear space, the depth being at first thirty fathoms, and then gradually shoaling to the French coast. The distance of Sark from France is about twenty-four miles.

Great Sark is rather more than two miles (4,100 yards) in length, from north to south, and Little Sark rather less than a mile. Including both islands, and the rocks beyond, the total length of the group is about five miles. The greatest width of land in the principal island is about 3,000 yards; but, including Brechou and the Burons, it amounts to fully three miles.

From St. Martin's Point in Guernsey, the distance to Little Sark is about seven miles, and from Belgrave Bay to the detached rock at the northern extremity of Great Sark, is about eight miles. The whole island somewhat resembles the figure 8; but the upper part of the figure should be much larger than the lower part. Its outline is, in fact, a double loop; the two loops of different sizes, connected by a short line.

Both Great and Little Sark are table lands, and their elevation above the sea is upwards of 350 feet.* The ground sinks towards the south, but is everywhere surrounded by lofty perpendicular cliffs.

The island of Brechou is about 1,200 yards in length from east to west, and about 250 yards wide. It rises at least 150 feet above the sea. The Burons are much smaller, and lower. The coasts of Sark, both Great and Little, and of the island of Brechou, are broken into numerous small coves, with sandy, shingly, or rocky beaches. Not one of these, however, in either island, communicates naturally and conveniently with the table land above, and not one is approachable by boats, except

* By recent measurements the highest point of Sark is determined to be 365 feet above mean tide.

when the weather is favourable. No boat can put off from any part of either island during the severe gales that are so frequent in these seas.

The wild scenery of the vertical wall of rock which surrounds Sark, is wonderfully enhanced in beauty and picturesque effect by the caverns with which it is everywhere penetrated, and the huge isolated masses of rock, often pierced with large natural vaults or tunnels, that form a kind of advanced guard in every direction, appearing to repel for a time the action of the waves, but really only serving as proofs of the destruction thus caused. Nowhere can the destroying power of the sea be better studied than in the grand scenes presented at every point round this remarkable island. Detached portions of the main island, others nearly detached, and only connected by natural bridges or narrow necks of land, huge vaults through which the sea dashes at all times, or into which it penetrates only at high water, fragments of rock of all dimensions, some jagged and recently broken, some—and these the hardest and toughest—rounded and smooth, vast piles of smaller rocks heaped around: all these offer abundant illustrations of nature's course when the elements meet on the battle field of an exposed coast, the tidal wave undermining and tearing asunder even the hardest porphyries and granites, however they may seem to present a bold front, and bear the reputation of being indestructible.

The small bays, detached rocks, and pierced rocks and caverns, are the chief objects of interest in Sark; and they are so not only to the lover of the picturesque, and to the artist who dares undertake to represent what many will deem unnatural, but also to the naturalist in all departments. The geologist will here find many interesting studies in the alternation of almost stratified granite with masses of greenstone, serpentine and actynolite, traversed by numerous veins and fissures, filled with soft clay, coloured by iron and manganese, or occupied by some of the infinite varieties of the rock once called *trap*.

Many beautiful and interesting minerals may also be obtained, and much may be learnt as to the way in which these minerals were formed. The botanist will not, perhaps, discover many new plants; but there are known kinds under peculiar conditions of growth, for the climate is singularly favourable to certain kinds of vegetation, owing to its average temperature and constant moisture, without much cold. But chiefly will the lover of marine zoology be rewarded for the trouble of visiting this spot. Nowhere in Europe, under the most favourable circumstances, can so great a wealth of animal life be found within a small space as in some of the Sark caverns. These are as remarkable for their extraordinary grandeur and beauty, as for the singular multitude and variety of the zoophytes they contain. A detailed account of the animal productions belongs to another chapter, and the exact spot of their occurrence will presently be described; but no account of Sark could be in any way complete without a reference to this source of interesting investigation.

The ordinary and best landing-place in Sark is called the Creux; but before attempting a description of it, let us first attempt to give the reader a general idea of the coast scenery of the whole island. Approaching the island from the south, we first reach and pass a small island called Le Tas,* near which are some fine detached rocks on the shore, and a large cave. Beyond this, to the east, small recesses are seen in the vertical cliff; one of them clothed with green to the water's edge, at a point where a narrow opening conducts to a kind of large open funnel, called the Pot. With some little difficulty this can be descended from the top, and the fringe of ferns and other plants around it, with the curious appearance of the opening seen from

* This name is often written, both in books and charts, "*l'Etat.*" There can, however, be no doubt that it alludes to the form of the rock, viz.:—*Tas*, a heap, such as is made with hay or corn. There are many rocks so called among the islands.

below, render it well worthy of a visit. Past the Pot is another smaller bay, with caverns, to which there is no land access; and then comes a third bay, with a pebble beach, immediately below the eastern and most perpendicular side of the celebrated *Coupée*, the narrow neck connecting Great and Little Sark. After this is an exceedingly broken and wild larger bay, in which are many caverns and large rocks, entirely pierced through. The shore here, as indeed everywhere, is covered with large, angular and rolled rocks. This is d'Ixcart Bay, and towards it a very pretty valley comes down from the interior of the island. The valley, however, terminates at a steep cliff.

There then succeed two singular points of land, the Point du Chateau, connecting which with the interior is a curious ridge called the Hog's Back, and the Point du Derrible.* The latter headland is separated from the cliffs by a nearly vertical gap, but not by a sea passage.

A comparatively narrow inlet, enclosed by these two headlands, terminates in a fine rocky bay, within which are many caverns, and also the entries to one of those curious funnel-shaped openings called *creux*, of which the Pot in Little Sark, and several others round the coast, are less perfect examples.

The "Creux du Derrible," as this is called, is a large, natural shaft or chimney, communicating below with the sea, and opening above into a field. It resembles the shaft of a mine, and a wild growth of brambles and furze surrounds the opening, one side of which is much lower than the other. To look down requires a steady head, for the walls are absolutely vertical, and only overgrown with vegetation round the outer rim, where a small earthen wall has been built to keep off stragglers. There is, however, little real danger. At high water the sea rushes in

* This headland and the Creux are generally spoken of and described as Point Terrible and the Creux Terrible. There is, however, no doubt that the word *Terrible* is a corruption of *Derrible*, an old French word, signifying a fallen mass of rock.

below by two large entrances; one wave following another with a rapidity and force only possible where the water has but a few hours to rise thirty or forty feet into a funnel-shaped land-locked bay. The white foam of the angry water rises high in the cave, and is said in former times, when the entrance was narrower, to have splashed up nearly to the top during severe storms. The roar of the waves, and the disturbance caused by the rolling of the pebbles and boulders over the floor, reverberates in the shaft. Such is the Creux du Derrible at high water, and then a nearer view is impossible.

But it may be visited under other circumstances. It is possible, though not very easy, to make a descent by a narrow winding path, overgrown with ivy, to the brink of a cliff, down which, by the help of some iron rings fastened in the rock, one can reach the bay, into which, at the further extremity, the Creux opens. A wild rocky beach, covered with boulders, being crossed, we reach a yawning cavern, having a somewhat regular entry. It is one of two natural tunnels, about 100 feet long, that lead to an amphitheatre, having an oval floor, covered with pebbles, about 100 feet in length by fifty feet across.

Within the amphitheatre the walls of naked rock rise 150 feet or more in height, and are quite perpendicular. The colour of the rock varies. At the furthest extremity from the sea is a vein of rich, reddish brown, clayey material; but around, and on the floor, are several kinds of granite, and much hard stratified schistose rock is seen. The variety of colour, arising partly from the different weathering of the rock, and partly from lichens, is very striking. The stillness, broken only by the waves as they break over the pebbles; the blue sky or fleecy clouds seen through the opening above; the bright, sharply-defined rocks of the Point du Derrible visible through one of the entrances, and a part of Jersey through the other; a little overhanging vegetation at the top, and the rolled pebbles of the floor: these form together a scene rarely approached in majesty and picturesque beauty.

Beyond the entrances to the Creux, the wet rocks, covered with sea-weed, may safely be crossed during a receding tide, and another small bay is then entered, in which is a vast detached rock, pierced with a natural arch, while beyond this again is another detached mass—a group of pinnacles, somewhat resembling one of the Autelets,* which is, however, in so insecure a state, that it may perhaps be washed away, or at any rate greatly modified, before another season arrives. Woe to the unhappy tourist who is found here after the tide begins to rise. Without climbing over a mass of steep, jagged rock, he will be cut off from the open bay of the Creux; and should he succeed in reaching this, he may still miss the approach to the ascent and be kept on the beach for some hours.

Between d'Ixcart Bay and the Creux harbour, one can find rough paths along the cliffs, which afford many admirable points of view. From the Hog's back, a long, narrow ridge of hard rock, formerly a place of refuge,† and now marked by a tower, one is enabled to see not only d'Ixcart Bay, but Little Sark and the outline of the peculiar jagged depression over which the Coupée road passes, revealing the true nature of that curious isthmus, and justifying the name given to it. The castellated rocks of the Point du Derrible, and the noble form of the extremity of that jutting, rocky mass, are also here seen to great advantage.

From one part of the cliffs, beyond the Point du Derrible, a descent conducts us to a fisherman's cove, just opposite the Creux harbour, sheltered by a small, rocky island, but not connected with any bay. The singular form and picturesque outline of the

* The *Autelets*, or small altars, are detached pinnacles on the other side of the island, well known to all visitors to Sark. They will be described further on, and a view of them is given in Chapter XI., in the account of the modern geology of the islands.

† Like Jerbourg and other places in Guernsey, these promontories were, no doubt, rendered defensible against the chance attacks of pirates.

Burons is here well seen, although their number cannot be made out; and they rather resemble a few large islands than a group of rocks entirely detached at high water.*

The Creux harbour is one of the most curious of the Sark wonders. It is very small, and sheltered with a little breakwater, leaving an entry only just wide enough for a small boat.

CREUX HARBOUR, looking outwards.

Even within the breakwater, however, the boats are not secure in rough weather, without being drawn up to the highest point and made fast by ropes and chains. From the breakwater there is no appearance of a practicable road into the island, and no apparent path up the steep and lofty cliff. We must enter before seeing the gloomy tunnel that alone gives access to the road. So singularly concealed, however, is the approach, that the Lords of the Admiralty, on a very recent occasion, arriving at Sark on their tour of inspection, and intending to land, actually did land on this breakwater; and there being no human being in sight, and no one knowing the state of the case, or seeing the tunnel, their lordships gave up the task as hopeless,

* See a view of the Burons in Chapter XII.

and returned on board in search of less difficult landing-places, and better known, if less picturesque, spots.

The following account of this curious harbour is from an old brochure, published in London in 1673, entitled, "News from the Channel; or the discovery and perfect Description of the Island of Serke, by a Gentleman now inhabiting there, to his friend and kinsman in London."

"Two only ascents or passages there are into it: the first, where all goods and commodities are received, called *La Soguien* (the Creux harbour), where, for a large space through a solid rock, there is a cartway cut by art down to the sea, with two strong gates for its defence, wherein most of the storeage for navigation, as masts, sails, anchors, &c., belonging to the island, are kept, and two pieces of ordnance above, always ready planted to prevent any surprise. The other is *La Frickeree* (no doubt the Havre Gosselin), where only passengers can land, climbing up a rock by certain steps or stairs, cut therein to a vast height and somewhat dangerously. Nor is it possible then for above one person to come up at once."

A pretty valley, wider than Baker's valley, but not quite so picturesque or well wooded, opens to the back of the tunnel, and so communicates with the harbour. A road also passes through this valley to the table land above.

It is curious that neither this nor Baker's valley open quite down to the sea, both terminating in a precipitous, though not lofty cliff. Until the tunnel was bored, and made the direct road, the Epercherie* was the chief landing-place. From the Creux harbour, and from the hill above, very beautiful views of the Burons are obtained, altogether different from those before described. All the rocks are now perceived, with the passages between them, and they look small and almost grotesque. To

* *Esperquerie*—the harvest of dried fish, from *perques*, the perches or poles on which the fish was hung up to dry. The name thus derived is now applied to the place where the drying was carried on.

the left is another corresponding group of rocks, projecting beyond the southern arm of the bay, called the Grève de la Ville; and as there is a small intermediate inlet, the view is symmetrical and exceedingly picturesque.

The Grève de la Ville is a wide sweep of pebble and rocky beach, with a noble group of caverns at its southern extremity, connected with a large arched rock,—the "Chapelle Mauve."

These caverns are only accessible at low water, and are not easily visited. The shingles here do not afford a landing-place, but the bay can be entered from above, and there is good anchorage. Boats are moored at a point called the Banquet, and a rough road leads to the top. Beyond this is the Epercherie, in some states of the weather a more convenient harbour than the Creux; and it is seriously contemplated to make this once more the principal landing-place of Sark.

We now approach the northern extremity of the island, which, like all the rest of the rocky coast, is penetrated by noble caverns and cut into shreds by the mixed action of weather and the sea. The principal caves are the "Boutiques," a group eminently characteristic of the island, and highly interesting and instructive. They are best entered from above, at a point where an island is nearly formed, by the action of the sea upon a vein of soft, clayey mineral. At the foot of this narrow cleft are piled gigantic boulders of granite; but about half way down is a transverse cleft of considerable length; the roof not yet fallen in, and the floor composed of rocks, whose edges and corners are still sharp and angular. At the end of this is an opening to the sea, to the left, and a continuance of this opening into the solid rock by caverns to the right.* Beyond, is a continuation of the main cleft to the extreme point of the island. Not possessing the rich lining of zoophytes seen in the Gouliots, this series of caverns is less interesting to the zoologist; but as

* A noble view of this opening of the Boutiques, looking towards the sea, is given in the frontispiece to this volume.

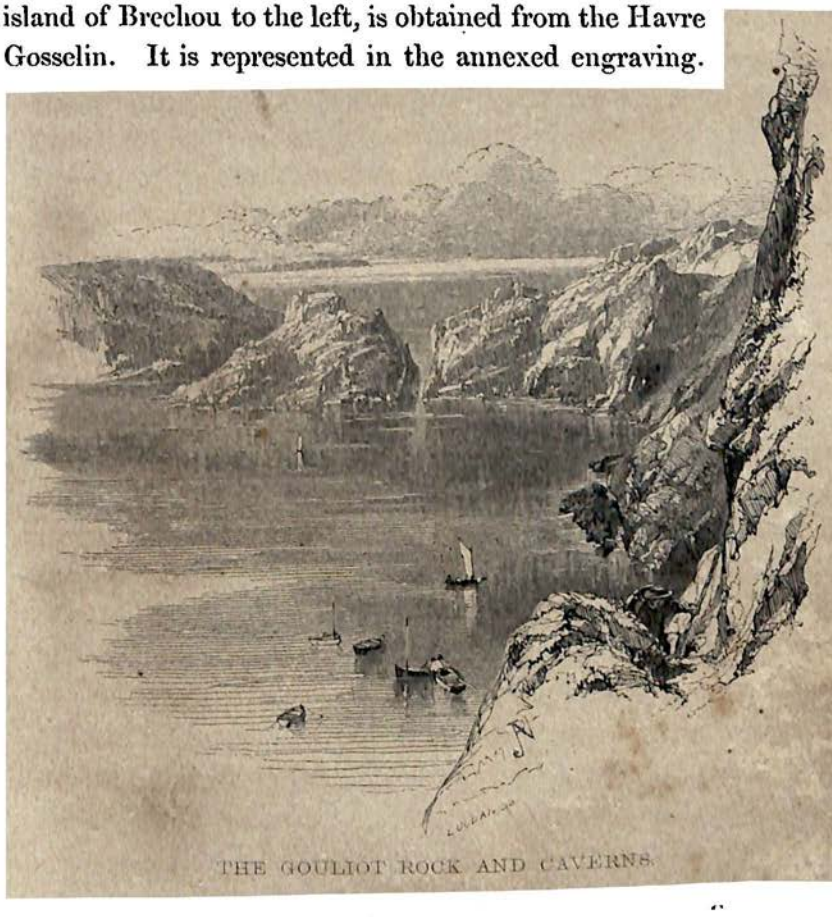
illustrating the mode in which Sark is being destroyed, there can be imagined nothing more striking or more instructive to the geologist.

Round the Bec du Nez,* as the little island north of Sark is called, and past the entrance to the Boutiques, we come to a confused pile of rocks, extending to a pretty bay (Seignie Bay), whence are seen the detached islets called the Autelets, one of the most picturesque groups of rocky masses around Sark. A footpath has been constructed down the face of the cliff, chiefly in a vein containing much iron and manganese ore, so that the little bay can be reached. The view, shut in by the steep face of rock, the picturesque 'Autelets' on one side and the pile of angular masses of granite on the shore, is extremely fine. At low water there is a walk quite round to the Port du Moulin, beyond which again is a noble, detached rocky mass, the Tintageux ;† and then another bay, the Grand Pegane, and the Port la Jument. Beyond the latter is the Moie de Mouton, a nearly detached rock, forming a sort of promontory, approachable only by a boat. Like the Point du Derrible on the opposite side of the island, and other rocks of its kind, of which we have already mentioned so many, it is strikingly bold, angular, and apparently capable of resisting almost indefinitely the grinding action of the tidal and storm wave. But like the rest, it is on the road to destruction; and some other mass, now a part of Sark, will succeed it in due time. There is no access to the shore beyond the Moie de Mouton till the celebrated Gouliot caves are reached. They

* Judging from old maps, as well as from the probabilities of the case, not only has the Bec du Nez become recently detached, but the land formerly stretched out to some distance towards the north, with a greater breadth than at present. The appearance of the fallen and still angular blocks, contrasted with the perfect roundness of those that have been longer exposed, testifies to the fact of enormous destruction in a short period.

† *Tintageux*—Tint-à-jeu—Tin Tagel (as in Cornwall), the Devil's Castle. One of the very few Celtic words remaining in the Channel Islands. The *Huet*, in Moulin Huet (Guernsey), is also Celtic.

are approached by a rather troublesome descent from the table land, the path leading past the Havre Gosselin, which may be conveniently visited on the same excursion. They consist of noble, vaulted caverns, piercing a promontory which extends towards, and has originally been connected with, the Gouliot rock and the island of Brechou (Ile des Marchands). The whole of the rock at and near the water level, beneath the promontory called the Sault de San Jehan (St. John's Leap), is honeycombed in a singular manner, forming a succession of caverns constantly altered by the action of the waves. A very fine view of the Gouliot rock and passage, with the caverns just visible, and the island of Brechou to the left, is obtained from the Havre Gosselin. It is represented in the annexed engraving.



THE GOULIOT ROCK AND CAVERNS.

The Gouliot caves,* which may at all times be reached from above, can only be thoroughly explored at extremely low tides; and even then, the visitor must be prepared to wade through some depth of water.

The descent is not a very easy task to any one not accustomed to cliffing, and not endowed by nature with a steady head. In this case, however, as in many others, there is little danger when there is no fear. A path has been made on the rocky face of a small inlet, and terminates on some large rocks, covered with black slippery sea-weed and little barnacles, the rocks having been thrown by the sea in its angry moments above the reach of ordinary tides. Over these one has to pick one's way into the first great cave, which is a long natural tunnel, something like the Boutiques, penetrating completely through a small promontory that stretches out beyond the middle of the west coast of Sark, and separated from the island of Brechou and the Gouliot rock by a tunnel, passable at all times. This first cavern is of noble proportions, and the floor is roughly piled with immense boulders, giving many a varied view of the small but picturesque "Havre Gosselin," seen through the opening at the farther extremity. But this cavern, though fine, is, as it were, a mere outer court, preparing us for the glories to be revealed within. Its walls are partly covered with those singular currant-jelly-like animals one sees expanded like living flowers in marine aquaria; deep blood-red is the prevailing colour, but dark olive-green varieties are also common, and numerous yellow and brick-red patches are seen at intervals. A few muscles, and tens of thousands of limpets and barnacles, cover the boulders. Abundance of life is seen, and some of the specimens are as rare as they are beautiful. A branch of the first cavern, in which is a deep pool of water, conducts to the sea; but it is better to wait till low water and creep round outside.

* *Gouliot.*—Goulot or Goulet, a narrow inlet, like the neck of a bottle.—*Anglice*, the gullet.

We then enter a gloomy series of vaults, lighted from the sea, and communicating with each other by natural passages.

Every square inch of surface is covered with living corallines; and, in some parts, an infinite number of *Tubulariæ* are seen occupying the walls. As it is only at rare intervals that these animals are deprived of water, and the caverns are always damp and gloomy, the conditions are particularly favourable for their development, and their dimensions and vigour sufficiently prove the healthiness and suitableness of the locality.

The Havre Gosselin succeeds the Gouliots; and in it also are caverns of considerable magnitude. They afford fresh examples of vertical cliffs, connecting with and originating small bays. More caverns and small coves succeed; another little harbour, the Port-és-Sees, is passed, and we then come to the expanse of sand and shingle from which the western and more sloping side of the Coupée commences to rise.

There is a path down to this bay from the Coupée. It is a steep zigzag, not pleasant to descend, although not very difficult of ascent.

The rest of the coast is that of Little Sark. The rocks are somewhat lower here than on the larger division of the island, and there is nothing calling for special remark till we reach the little harbour of Gouray, where, in former times, vessels were moored, bringing stores from Cornwall for the mines adjacent. A large group of rocks and small islands forms a temporary barricade to this part of the island, and keeps off some of the heavy seas that sweep round during the equinoctial gales, and at other seasons.

We have thus completed our survey of the coast line of Sark, as it may be seen by walking round it on the cliffs, or sailing along the shores, according as circumstances permit; but the detached islands and rocks are not often safely to be reached, although the many stout boats seen moored at all the little landing-places, show that the Sark fishermen are not afraid of

braving rough seas and dangerous shores. About twenty small nooks and coves may be counted along the shore, but access to the land from some of them is so difficult, that nothing but necessity would induce any ordinary tourist to undertake the trip.

Between Sark and Brechou is the detached rock called the Gouliot Rock, the celebrated Gouliot caverns, already alluded to, opening under the cliffs that face this rock. The water-passage between the Gouliot Rock and Brechou is deep, dark, and dangerous. The current is swift, and varies with the tide, so that at times it would be impossible to row against it. There is, however, depth of water sufficient to float a frigate, and daring sailors, in time of need, have ventured to sail through it.

There is only one landing-place at Brechou, worthy of the name, and that is not accessible at all times of tide, even in a rowing-boat. The cliffs all round the island are high and exceedingly steep, but their height is inferior to that of the Sark cliffs. The top of the island is partly cultivated, and there are two farms; the population of the place, at the last census, being seven human beings, a cow, a horse, and a dog, besides several sheep.

Like the larger island adjacent, Brechou is almost intersected by caverns and surrounded by picturesque rocks. Seen from the sea—their jagged and varied forms resembling pinnacles and castles, with cormorants standing sentinel on the flat edges, and gulls perched on the commanding heights—these rocks contrast finely with the black overhanging precipices of the island. But the overfalls and the white foam, also visible in the sea near them, give notice of the hidden dangers that lurk beneath, and remind the boatman of the caution that is needed in threading his way through the narrow channels that alone are safe.

From the highest point of Brechou, where a small cairn has been placed, there is a fine view of Sark in its whole length, with all the detached and pierced rocks, and the entrances to the dark caverns that penetrate its western face. The distance is so short, the position so nearly central, and the level so nearly that

which is best adapted for a good *coup d'œil*, that the view is quite panoramic. At a greater distance, the surface of Sark looks comparatively flat, but here all the principal undulations are seen, and the most striking peculiarities of structure are readily made out.

Besides the little harbours and rocky cliffs, which one can ascend after landing from a boat, there are some small bays that may be reached from above, but which it would not be easy for boats to enter. More than five-and-twenty points of the Sark coast can be visited in this way, and three or four in the island of Brechou; and as each one will take time and trouble to descend, and many of them require good climbing powers and a steady head, few persons would be inclined to attempt a thorough investigation of the rocky coast adjacent, more than half-a-dozen times in one day.

It will be evident, then, that there is plenty of work in Sark for several days, even for the most energetic tourist. Many of the points of view can only be seen to advantage, at certain times of tide; whilst some of the descents to the beach include wanderings for one or more hours in romantic caverns. In the Channel Islands, moreover—across which Atlantic gales sweep with fierce violence, and which, by their elevation, attract no small quantity of rain,—it is not possible to continue one's investigations for many days, without being stopped by unfavourable weather. All these considerations show that Sark, small as it is, cannot be appreciated without a prolonged visit; and indeed, it requires not only time, but a good guide to enable a stranger to reach the most interesting points.

We have as yet spoken chiefly of the coast, and it is true that this is the chief attraction of Sark. But several hours may well be devoted to visiting the gardens and grounds of the Seigneurie, the wooded glade called Baker's Valley, and the magnificent Coupée, the glory of the Channel Islands.

In its present state, the Coupée is deprived of much of the charm which danger must formerly have lent to so curious a

phenomenon; but although more easily visited, it is also preserved from further change, by the road that has been constructed across it. Soft veins of clay, deeply cut into by long exposure to weather, have gradually lowered the surface of the island at this point, while the waves below have assisted, removing all the debris washed down, and undermining the foundation. The result is very curious. For a space of about 200 yards there is now a narrow roadway, with a precipice on each side, partially sheltered in two places by a shoulder of harder rock than the rest. The road is reached by a deep cutting through the rock on the northern or Great Sark side, and the whole requires more attention than it now receives, to prevent its becoming still more steep and dangerous than it is.*

Standing in the middle of the Coupée, one is able to see the sands and boulders of two small bays, one to the right and the other to the left, at the foot of a precipitous cliff of nearly 300 feet, the greater part of which is almost vertical.† On the Sark side, there is a flat wall of flesh-coloured clay; and at various places between the larger and smaller tracts of land, is a very decomposing granite, which helps to vary and improve the outline, although without strengthening the causeway. Defended by the road, the work of destruction goes on slowly; but a very little neglect might result in the entire separation of the two divisions of Sark. It seems to have escaped the notice of most writers on Sark, that the Coupée is the result of atmospheric influences above, as well as of the action of the waves below. The latter cannot now act very much, as the sea rarely

* In the year 1811, a portion of the surface was detached from near the centre and fell to the bottom, leaving the width of the passage only a few inches more than two feet. In 1813, after the repairs of this part, the width was only five feet.—*See* Quayle's Report, p. 297.

† The actual distance between the base of the cliff towards the east, and the base of the cliff towards the west, as determined trigonometrically by Lieut. Richards, during his recent survey of Sark, is 300 yards.

beats against the earthen buttresses, which support the road, except at highest tides, and during severe storms. The rain, however, never fails to remove some of the soft material of which the interspace between the granite on the two sides is formed.

There is a fine view of the island of Brechou, and the entrance to the Gouliots, from a new road, constructed in Little Sark, to bring up the sea-weed from the rocks. From this point, also, the Coupée Bay is well seen, and the islands of Guernsey, Herm, and Jethou, are all visible.

With the exception of the mines, which are quite abandoned, and the few habitations adjacent, there is little to be seen at the surface in this division of the island. The view of the Tas, and other rocks, and a small Druidical monument still remaining, are, however, interesting.

No one should visit Sark without paying a visit to the garden and grounds of the Seigneurie. The inhabited part includes a very picturesque group of buildings, with a tower rising from the dwelling-house, and a number of small constructions, some modern, some very old, but all in good condition and excellent taste. In the grounds every possible advantage is taken of the natural features, and lawns, ponds, shrubberies, plantations, with flower and fruit gardens, are most conveniently and charmingly at hand.

The example here set of good husbandry, careful cultivation, and all that is best and newest in agriculture, floriculture, and horticulture, may, perhaps, in time induce the Sark farmers to improve the very primitive methods of proceeding that still characterise them; but at any rate, all these efforts succeed in producing good crops, and flowers and fruit that might make many a proprietor in larger islands envious. The excellent taste that takes advantage of all peculiarities of the island, and works with nature, instead of endeavouring to supersede and conquer her, is rewarded as such good common sense generally is, by complete success in every department.

Of the other Sark buildings, the church is not one that can be commended. It was built in 1820, and remains in its original naked ugliness; but some day, no doubt, funds will be obtained to improve or rebuild it. It unluckily occupies a very prominent position, and produces a most disagreeable effect to the eye from every point of view. The little parsonage is a neat, picturesque cottage; one of a group, which might almost be called a village. At some little distance is the principal hotel, kept by Mrs. Hazlehurst, which lies on a slope in Baker's Valley, and is a group of irregular buildings. The farm-house in Baker's Valley is charmingly placed, and of appropriate rustic style. The few other dwelling-places, collected in groups in different parts of the island, are all, with the exception of the miners' cottages in Little Sark, picturesquely, but stoutly built, and with comfortable well-devised roofs, whether of thatch or tiles. Many of the old buildings are of amazing strength, the walls being sometimes six feet thick, built of solid granite. It is a curious fact, that, notwithstanding the abundance of good granite in Sark, both Jersey and Guernsey stones, especially the former, have very commonly been used for building.

On the whole, it may safely be said that there are very few islands, even though many times larger than Sark, that contain so much of beauty, romantic scenery, and interest. Notwithstanding its extreme smallness, days, and even weeks slip away, and there is always something new to see, some new effect of light and shade on the rocks or foliage to watch, some singular phenomenon of natural history to study, so that one leaves the place at last, even after a lengthened stay, with a feeling that there remains much work to be done, and much to be seen that is new and interesting.

There are no streams in Sark, but water is plentiful, and good at all seasons. The houses being for the most part detached, the population small, and the rain-fall considerable, there has never occurred any want in this respect. With regard to food

the case is different, and were it not for the sheep now kept by the Seigneur, it would often be impossible to obtain meat. Those, however, who are enabled to exist on other food than beef and mutton, will find no difficulty in supplying the requirements of nature. Certainly the island is not worse off now than formerly, and the following account of the resources of Sark, borrowed from an author already quoted, and referring to its condition three centuries ago, is quite sufficiently accurate at the present time, to supersede any remarks we might be inclined to offer in reference to the matter.

"For belly timber, our three staple commodities are fish, fowl and rabbits. Of the first, a little industry will purchase us a hundred sorts, particularly a large fish we call a vrack-fish (rock fish), which we split, and nailing it to our walls, dry it in the sun, for part of our winter provision. As also a large shel-fish, taken plentifully at low tides, called an Ormond,* that sticks to the rocks, whence we beat them off with a forck or iron hook. 'Tis much bigger than an oyster, and like that, good, either fresh or pickled, but infinitely more pleasant to the gusto; so that an epicure would think his pallat in paradice, if he might but always gormondise on such delitious ambrosia.

"For fowl, your city cannot be better furnisht with wood-cocks or widgeons, besides the abundance of duck, mallard, teal, and other wild fowl, with clift pidgeons, with which at some seasons almost the whole island is covered.

"Of conies we have everywhere exceeding plenty; and yet least we should want, nature has provided us with a regular warren, placing at a small distance in the sea an island, of about half a mile every way over (the Ile des Marchands, or Brechou), which is inhabited by nothing else, whither we commonly go a ferreting, and have thence such abundance, that it has been confidently told me some families here have made £15 or £20

* Ormond, ormer (*aureille de mer*). The *sea-ear* or Haliotis. It is still largely consumed in Sark and the other islands, though not found on the coast of England.

a year only of their skins. If all this rich fare will not content you, we have a most excellent pottage made of milk, bacon, coleworts, mackarel, and gooseberries, boyled together all to pieces, which our mode is to eat, not with the ceremony of a spoon, but the more courtly way of a great piece of bread, furiously plying between your mouth and the kettle."*

As in the other islands, the sea-weed is used in Sark for agricultural purposes; but owing to the extreme difficulty of approach, it is found more economical to lift it by machinery to a convenient level, than draw it up from the beach. A large quantity of the sea-weed is imported from Herm.

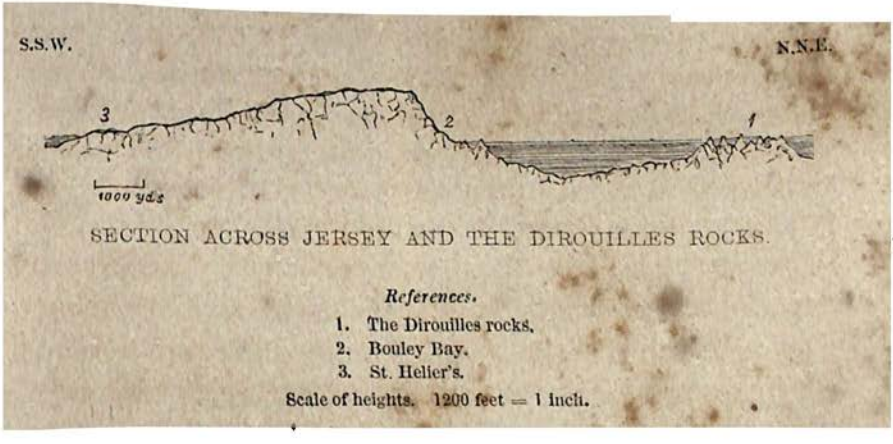
Taken as a group, it may be observed in conclusion, that the islands of Guernsey, Sark, and Herm, are the loftiest, and project furthest out to sea, of all the Channel Islands. They thus approach most nearly in character to oceanic islands, and in all respects are most independent of the adjacent land, whether of France or England.

A belt, two miles wide, running due east and west, through the south of Guernsey and Great Sark, includes the highest land in the whole group of the Channel Islands, and the general slope of the land to the north of such imaginary belt is northwards—that to the south, southwards. It thus forms the dividing line of the whole district. On the north side of the belt the land slopes gradually, on the south side much more abruptly; so that the depth of thirty fathoms, or 180 feet of water, which may be considered the greatest depth of sea in the neighbourhood, is distant more than six miles to the north, but only one mile to the south. These generalisations may seem unimportant, but they point to conclusions which will be considered in another chapter.

* "News from the Channel," &c., *ante*, p. 78.

CHAPTER V.

THE ISLAND OF JERSEY AND THE ADJACENT ROCKS.



SECTION ACROSS JERSEY AND THE DIROUILLES ROCKS.

References.

1. The Dirouilles rocks.
2. Bouley Bay.
3. St. Helier's.

Scale of heights. 1200 feet = 1 inch.

From the rocks off Jerbourg and St. Martin's Point in Guernsey, to Cape Grosnez, the nearest point of Jersey, is a distance of seventeen and a-half statute miles, of which about thirteen miles is a channel, having from twenty-five to thirty-five fathoms water, the bottom consisting of rock, coarse stones, shingle, and shell-sand or shells. This channel is called 'la Déroute;' and from it, eastwards, to the Normandy coast, the water gradually shoals. Before reaching the northern coast of Jersey, and about three miles distant from it, there is a succession of almost continuous banks and shoals, which reach to the French coast. The rocks above water reduce themselves into three principal groups:

one to the west, called the Paternosters; another, nearly central, called 'Dirouilles;' and a third, to the east, called the Ecrehou rocks. Between the eastern extremity of the latter rocks and Cape Carteret, the nearest French land, there are unsafe channels, interrupted by violent over-falls; sand-banks, almost exposed at low water, and some rocks. There is a tolerably good channel between the Dirouilles and Ecrehou into Bouley Bay, on the north coast of Jersey; but on the whole, the navigation along the north of the island, and also between Jersey and France, is very dangerous, except for vessels of small burden.

Jersey is a compact island, of oblong form, ranging east and west, and situated between north latitudes 49° 15½′ and 49° 10′, and between west longitudes 2° 0⅜′ and 2° 15½′. It is about eleven statute miles in length, from east to west, and in some places half that width. It is estimated to contain 39,580 English acres, or about sixty-two square statute miles,—this estimate including all the land to low water mark. Of this area, about 25,000 acres are under cultivation.

The distance of Jersey from the nearest point of France is not more than sixteen miles; but there is at present no convenient or safe approach to any port on the coast of Normandy nearer than Granville, which is about thirty miles distant. The usual communications are from St. Helier's with St. Malo, on the coast of Britany, situated due south, and with Granville to the east.

In Jersey, a belt of elevated land, from 250 to 300 feet above the sea, ranges from east to west, rising very abruptly from the north coast, and less abruptly from the south-east and west coasts; differing, therefore, in this respect, from Guernsey, where the slope is towards the north, and more gradual. The natural drainage of the island is by several small pellucid streams, rather deeply intersecting the land. Of these streams, the largest enter St. Aubin's Bay. One small group is lost in the sands to the east, near Gorey; and another is lost in a similar manner at

St. Ouen's, on the west coast. Several small streamlets fall into the sea, in miniature cascades, over the cliffs on the north and north-west coasts.

On the east, south and west, the coast of Jersey consists of large, open bays, each terminated by rocky headlands. Within these bays the country remains low and flat for some little distance, except where rolling sand hills intervene. In this respect there is little real resemblance to any part of Guernsey, though the bays between Lihou and Grande Havre, in that island, are not at first sight very dissimilar.

On the north, north-east and north-west shores of Jersey there is much picturesque rocky and cliff scenery, of the same kind as that on the south coast of Guernsey, but more indented and inferior in height. Here are the principal steep cliffs, caverns, arched rocks and large semi-detached masses of rock, or separate islets. The island throughout is well wooded; in the interior the numerous cross roads being almost concealed by the overhanging branches of trees planted in the hedges or fields adjoining. The wood often grows on the slopes of the hills, even to the water's edge, and is generally distributed so as to give a peculiarly rich and pleasing expression to the landscape, either from the little bays or wherever a wide and distant view can be obtained.

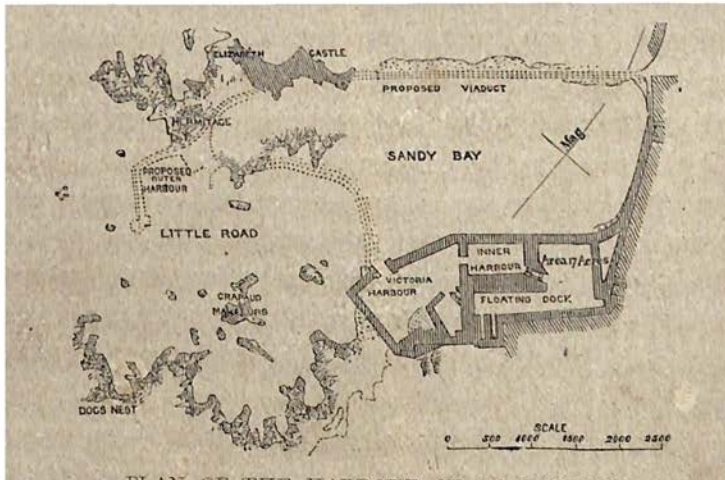
Almost the whole island is broken up into small enclosures by lofty hedges. In the western part of the parish of St. Brelade (on the south-west of the island) is an extensive tract, at some height above the sea, called the Quenvais, covered with drifted sand, and below, but near it, to the west, is the sandy district of St. Ouen's. Wet places occur in several of the valleys; but the principal marshes are near the sea, one at the lower end of St. Peter's valley; another near St. Ouen's pond, in the bay of that name; another within Grouville Bay, near Gorey; and one between St. Helier's and Plat Rocque, on the south-eastern coast.

Approached from the sea, the view of Jersey, especially on a fine summer's day, is wonderfully varied and picturesque. The two principal bays of St. Ouen's and St. Aubin's are very much larger than any of those of Guernsey, and are better enclosed by cliffs than those on the western side of the latter island, which, in other respects, most nearly resemble them. Detached rocks, visible on the south-western extremity, are bold and numerous; and Elizabeth Castle, on the south coast, stands out among a group of high rocks and islets, detached at half tide. In some of the wide, open bays, the water runs out at low tide for a great distance over a noble expanse of sands, but the rocks are nowhere very far off. As the central part of these bays recedes, and the shore is perfectly level and well sheltered, there are roads and houses always in sight, and cultivated lands, to break the monotony of the scenery. Many of the bays, however, are characterised by rather high, rolling sand hills, near high water mark; and within these is another flat expanse of sand, below the level of the highest tides, and subject to occasional inundation. There are small towns and villages at various points of the coast, which we shall notice in giving a rapid survey of its most striking points of view. It will be convenient to begin our account of Jersey at the principal town, which is situated near the middle of the south side of the island, in the bay of St. Aubin, and is called St. Helier's.

The town of St. Helier's, whether seen from the sea, or indeed from any other of its approaches, is altogether wanting both in architectural and picturesque effect. This want of beauty in itself is, however, somewhat redeemed by Elizabeth Castle and Fort Regent, which stand as two sentinels, one on either side of the harbour. The effect is also somewhat improved by the green background. As a mere town, it has no other objects of interest than the shops afford,—the churches, the town hall, the hospital, the theatre, the markets and the gaol, being none of them ornamental; while the narrow and irregular streets, the

small, paved space, ostentatiously called the Royal Square, the various crescents and terraces, and the general style of construction of the private houses, do not rise beyond the level of second rate English watering places. The Victoria College, indeed, stands well, on high ground to the east of the town, and is surrounded by a rich belt of well-grown trees, beneath whose shade are public walks. One view of the college is good; and though wanting vigour, the style selected is not without merit. There is, however, a want of some centralising feature especially noticeable from the west and north; and the building is hardly seen from most parts of the town, owing to the absence of any tower or prominent elevation.

The most important public works of St. Helier's are the harbour-works and pier, and the fort. The former are very extensive, and no doubt have proved of great value in a commercial sense. They are nowhere unsightly; and from some points of view are even grand and picturesque. But although large and



PLAN OF THE HARBOUR OF ST. HELIER'S.

costly, they are not complete, as they still do not enable the steamers to enter and land passengers at all times of the tide; nor is the entrance wide or sheltered enough to allow large steamers to

enter safely, during very bad weather. Probably, if these works had been planned for a town to the west of Elizabeth Castle, instead of to the east, the result would have been much better in many respects; as a larger harbour, with deeper water and better shelter, might have been obtained in that direction at far smaller cost. As this has not been done, there is still required an arm of the pier running out into deeper water. The annexed plan will give a correct idea of the present harbour and the addition proposed by Mr. G. F. Lister, to remedy its defects.

The docks connected with the harbour are apparently convenient, and there are tolerable facilities for ship building.

There are streets in the town occupied by better shops than others; but none are, in any respect, either good or picturesque.

Neither is any advantage taken of the natural capabilities of the island to produce effect. The main streets do not run up from the landing-place or harbour, with any attempt at order, nor have any of them the smallest approach to characteristic peculiarities. They are simply mean and poor. The newer streets and terraces, towards the back of the town, on the rising ground, are on a larger scale and better than the old lower streets; but they also are built without systematic plan, and are not yet advanced enough to give a feature to the place. The detached houses, of which there are many, surrounded by gardens, within the town, and many more on the outskirts, are equally devoid of effect, though looking comfortable, and perhaps not ill-contrived individually for the purposes for which they were designed. They resemble the villas commonly seen in the outskirts of large English towns.

The town of St: Helier's is divided into two very unequal parts, by the high projecting granite promontory on which Fort Regent has been built. Formerly, no doubt, this hill connected with other hills behind, and also with the high ground extending seawards for some distance; but, it has been separated and scarped, for military purposes, and is now extremely square and

ugly. A long range of rocks, many of them covered every tide, is seen at low water, stretching out parallel with the town; and on parts of them are Elizabeth Castle and the Hermitage. These rocks are connected with the ridge on which the fort is built, and the latter terminates in a promontory, separating St. Aubin's Bay from the Grève d'Azette or Samares Bay, a flat bay of considerable magnitude, within which is the manor house and estate of the Samares family.* Beyond this, again, is St. Clement's Bay, a more interesting, but sandy tract, extending to Plat Rocque. Throughout this bay, but especially at the eastern extremity, a vast floor of rocks is laid bare at low water, and only a small number of islands, islets and rocks, rise above high water mark. Several of these are covered with vegetation, and have evidently been torn from the main land at no distant period. "La Motte," or Green Island, is one of the largest. The country within these bays is flat and sandy, and includes much marsh land. There is no cliff, and the hills are low and not very interesting. In summer, however, the scenery is pretty, as there is cultivation, in some parts, close to the water's edge, and the rocks here and there project above the cultivated fields. There are also, houses and villages, at intervals. Pontac is a pretty village, near the middle of St. Clement's Bay.

Past Plat Rocque, the coast at once trends northwards, and a second bay opens, called Grouville Bay. For the most part, this is not much more interesting than St. Clement's Bay and the Grève d'Azette, as the shore is still covered with low sand hills, the loose sand constantly blowing over them, and preventing cultivation; but all parts of the bay command views, both of Mont Orgeuil Castle, at the northern, and of Rock Point, at the southern extremity.

* *Samares, sur-les-marais,* 'on the marshes'—the evident derivation of this family name, which is well known in both the larger islands, and has become more widely celebrated by the daring exploits of Admiral Lord de Saumarez, of Guernsey.

Mont Orgeuil Castle stands on a projecting headland of porphyritic rock, that separates Grouville Bay from an adjoining small cove, and includes within its irregular seaward termination, not only the ground on which the castle is built, but a little harbour called Anne Port, a number of fine cliffs, and some jagged pinnacles of rock that rise well out of the sea. This is the commencement of the northern division of Jersey, which has been already alluded to as resembling the southern part of Guernsey. It is the most rocky and picturesque part of the coast.

The position of Mont Orgeuil, a good specimen of a mediæval castle and fortress, is certainly very fine; and the effect in its present state is satisfactory. It is solid, massive and imposing, and harmonises well with the surrounding scenery. From its approaches, from the various terraces, and from the windows, are brought successively into view the open bay to the south, including the harbour of Gorey, with its fleet of oyster boats, the harbour of St. Catherine, and the wooded interior of the island. On the distant horizon, the white shores of Normandy and the cathedral spire of Coutances, are distinctly seen when the sky is tolerably clear. This castle is the commanding object of the east coast of the island, and occupies the central point of that coast. Seen at a distance, it is a grand mass of building, but it hardly repays close examination; the remains of its last occupation and the marks of adaptation for barrack purposes, interfering with the historical as well as the picturesque impressions.

It was chiefly during the Great Rebellion, and while serving at the prison of the Parliament party, on the retreat of Charles the Second that this castle obtained its importance. Parts of it, however, are believed to date back to the time of Julius Cæsar. It is surrounded on three sides by the sea, and towards the west is connected with the land by a rocky neck of considerable length, the access to which is defended by various fortifications in solid rock. The castle is large, and various apartments of fair proportions are contained within it. Belonging to the castle and

communicating with it, is another ancient fort, called Cæsar's Fort. Behind it is a Druidical monument.

Beyond Mont Orgeuil, the coast begins to assume a different character. Immediately beyond the castle is a fine mass of broken, jagged granitic rock of bright pink colour, and with much jasper, numerous fragments of which are to be found in the boulders on the shore. A little farther on is a headland, called la Crête, which is bold and high.

A small cove beyond la Crête, with a quantity of soft sand and mud, greatly discoloured by iron, here connects with a little gorge, opening into the country.

There is much grandeur in the Crête Point: the rocks project from the soil broken into extremely regular shapes; and the intervals between them are grown over with furze, and the prickly plant called Butcher's Broom. The hard tough rock that here breaks out, is not altogether peculiar to this part of the island, but is nowhere seen in such regular forms.

Between the Crête and the detached syenitic rock on which is Archirondelle Tower, is another small but picturesque cove, where vegetation comes down to the water's edge, and a small village is seen nestled prettily among rocky cliffs and trees. Beyond the Tower, the open, regular sweep of St. Catherine's Bay commences, and continues about a mile, being terminated by a long, useless breakwater, constructed by government.

Another breakwater has been commenced near Archirondelle Tower, intended originally to be carried out as a south arm of the proposed St. Catherine's Harbour. It is not being continued at present. It is constructed of an extremely remarkable and picturesque pudding stone, which is seen in the cliffs not far off, and covers a large part of the north-eastern extremity of Jersey, communicating many picturesque and characteristic features to the landscape.

From this point to the commencement of Bouley Bay, the whole of the coast consists of similar rock, and the beach is

formed of a succession of rounded pebbles of granite, jasper, a peculiar green-stone, cornelian, agate, and common black flint, which in any English watering place would be collected and polished for sale. There is scarcely a beach in England that could compare in this respect with these Jersey coves.

The bay of St. Catherine's is broken and fine. Three distinct valleys open into it, and at a point about two-thirds of the distance across, the conglomerate rock projects, abruptly and grandly, quite into the sea. At this point a road is cut deeply through the rock, showing all its peculiarities. Here, also, the vegetation so completely covers the rock, that the artist and lover of fine scenery would revel in the numerous picturesque bits to be seen at every turn. No one should omit visiting this part of the island, as it is perfectly accessible to carriages.

Close to the breakwater is another deep cutting, from which large quantities of material have been removed for the harbour works. A detached rock—Verclut Point—intervenes between these quarries and the sea. At every season, and under all conceivable circumstances, the scenery at this point is grand and impressive. For the geologist it has additional charms, which will be alluded to in another chapter.

Fliquet Bay succeeds St. Catherine's, and is terminated by a headland almost detached, called "La Coupe," corresponding with the Coupée of Sark. This is the extreme north-easterly point of Jersey. The altitude of the Coupe is not very great, and the neck of land that connects it with the main island is neither very narrow or deeply cut; nor, indeed, are the sides precipitous; but it is a fine projecting mass, and the few rocky heads jutting out above the grass at the extremity, have good forms. Fliquet Bay has a pebble beach, and a small martello tower is placed in its centre, near a few houses, called the village of Fliquet. Here, as so often in Jersey, the vegetation coming down to the water, and the sands at intervals covering and re-

* A sketch of it will be found in Chapter XVIII.

placing pebbles and hard rock, give interest to the landscape, and lend it a charm which is rarely found in Guernsey, and never in Sark.

Next to La Coupe is an exceedingly picturesque and broken bay, "Saie Harbour." The beach is composed of very irregular ridges of pudding stone, covered with the common bladder-wrack, and rising out of a field of pebbles, of all shapes, sizes, and colours, derived from the same rock. Near the steep rocky background of cliff there are huge masses of the conglomerate, not yet broken up by the waves, but strewn about in the richest confusion. It is impossible to find anything grander of its kind, or more picturesque, than these huge masses, blackened below by the thin slimy coat of marine vegetation, grey above by the lichens; of all conceivable forms and dimensions, and evidently all waiting their turns to be broken up into similar pebbles to those that strew the ground in every direction between them and the sea.*

A headland, called the Couperon, something like the Coupe, terminates this little bay, and forms one side of an exquisite little gully, the "Douet de la Mer," separating Saie Harbour from Rozel Bay, which next succeeds. At this point there is a deep narrow valley, opening into the interior. The sides of the hill are without trees near the sea, and all along this coast the hills are rather monotonous, for want of some variety of vegetation.

Rozel is a pretty fishing village, with a miniature harbour, at the foot of a fine bold valley, running up the country, and traversed by a carriageable road. There are several neat houses, and some untenanted barracks near, and in summer it is a place of great resort for pic-nics. The land above is cultivated, and was the seat of some interesting horticultural experiments carried on by the late Mr. Curtis.

Between the Nez du Guet, which forms the western horn of

* A view, taken in Saie Harbour, is given, as in illustration of the natural weathering of boulders, in Chapter XI., 'On Modern Geology.'

Rozel Bay, and an extremely picturesque headland called La Tour—a pyramidal rock, barely separated by a narrow channel from the main island—there is another small bay, covered with fragments of stone, called the Sauchet. A deep gully is being cut by the sea, which will before long greatly widen the interval. The coarse pudding stone is here easily broken up, and leaves behind the usual accumulation of rounded pebbles.

The view from La Tour across Bouley Bay is very fine.* The bay itself is two miles across, and recedes fully one mile. On the side to the east are numerous broken, rocky headlands projecting into the sea. The cliffs are high, and rise gradually towards the west, where they are at least 250 feet above the sea, but the forms there are not remarkable for picturesque beauty. The headland that encloses the bay to the west is bold and bluff, and from it a good idea is obtained of the coast line. The reef of islands and rocks called the Dirouilles and Ecrehou, are opposite Bouley Bay, and form a continuous line at low water, a little to the north and east, while in clear weather the French coast, and the other Channel Islands, may also be seen.

There is good anchorage in Bouley Bay, and only a few dangerous rocks, which might be removed. The channel to it is open, the water from the Deroute gradually shoaling from thirty to twenty fathoms, and then gradually, also, to fifteen. There is at least six fathoms water everywhere in the bay, quite close to the land, except where the three or four rocks alluded to come near the surface. It was at one time proposed to continue the small breakwater already commenced, and form here a harbour of refuge, but the plan has been abandoned.

The cliffs enclosing Bouley Bay are everywhere high and steep, but they are almost without exception clothed with verdure even in mid-winter. They are too vertical close to the sea to allow of a descent in many places; but it is possible,

* It is represented in a sketch engraved in another chapter. *See* index of illustrations for a reference to it.

though not very pleasant, to follow a sheep path about half way down the cliff, which will enable the pedestrian to pass completely round every part. The road descent to Bouley Bay is by a steep zigzag, opening out numerous fine views from the 'Jardin d'Olivet,' where is a prominent but ugly building. Immediately beyond Vicart, the western extremity of Bouley Bay, is a small harbour and a little fishing station, behind which the cliff rises rapidly and forms a bold, bluff headland. There is here a pretty coomb, or semicircular depression of the surface, communicating with the interior, but the hills are bare and rather monotonous.

From the high ground at this point, which juts out into the sea, and is the northernmost point of Jersey, the coast recedes slightly, in a number of exceedingly picturesque, but rather formal semicircular bays, to Rondnez and Sorel Points. These exactly correspond, and although more broken and picturesque, they resemble Moye Point and some others of the headlands on the south coast of Guernsey. Among the bays alluded to, are Giffard's Bay and Bonne Nuit, which indeed are one, for all purposes of the picturesque, being separated only by a low reef of rocks running out to a point. The whole of the beach in this part of this island is of rounded pebbles, but the cliffs behind are generally composed of a great thickness of angular blocks, fallen from above and much decomposed, covered by good vegetable soil, and a thick coat of green even in winter. In Giffard's Bay there is a small stream winding through a very deep gorge, which has been eaten out by the water, but is absolutely choked with vegetation. Bonne Nuit is bare, especially in the upper part, where the rocks jut out from the stone-covered surface in a number of fanciful forms. The descent to Bonne Nuit from the picturesque granite quarries of Mont Mado immediately behind, is very beautiful, and includes a rich variety of rock and water scenery, with reefs of rock running out into the sea at a short distance.

The north coast of Jersey, at this part, is somewhat similar to the south-east coast of Alderney. It is greatly broken and precipitous near the sea, but falls back in rocky islets or fiords, penetrating the land without opening into the interior. The face of the cliff, for a considerable distance, is deeply cut into by granite quarries opened on rather a large scale about half way down towards the sea.

The points called Rondnez and Sorel Point, and the highly interesting little bay or cove between them, are well worth visiting.

From Sorel Point is a magnificent view in both directions; this headland stretching out far into the sea in a number of jagged peaks, of deep pink colour. Remarkable veins of flesh-coloured mineral are seen in the inaccessible cliffs a little to the east, and these are continued for some distance, forming striking combinations also met with in Alderney.

There is a very grand ocean pool, nearly surrounded by high, precipitous cliffs, immediately beyond Sorel Point. It is appropriately named 'la Houle'—the hole. A quarter of a mile further is a deep gorge in the granite, through which a considerable stream of water runs, in a succession of falls, from near St. Mary's Church in the interior, to the sea. This is one of the few streams worthy of the name, entering the sea on the north coast. It feeds several mills, which are, however, without exception, in a most dilapidated state. It would be very difficult to find any object more utterly desolate than the ruins of the lowest of these mills close to the sea,—far removed from any appearance of life, scarcely one stone remaining upon another, not a tree in sight, and the water rushing past in a rapid stream till at length it leaps down a nearly vertical wall of granite some twenty feet into a dark pool, almost enclosed by detached jagged rock of similar kind and of greater height. This spot is called "les Mouriers," and is not very easily found.

On the other side of this hill, and not far off, we approach a magnificent gorge, where a vast mass of granite, fallen away

from the cliff, has left a yawning cavity,—one of those creux or holes met with in all the islands, though with various degrees of picturesque effect. In this case the walls of the gorge are nearly vertical, and a fiord or inlet penetrates far into the land, the entrance being partly closed up by the fallen rock. Viewed from above, there is a wonderful intensity and grandeur in this gap. There are numerous boulders and large masses of rock at the bottom.

Still further on is another ravine,—a deep, funnel-shaped gorge, running far back into the land, called Crabbe. To this there is access by a steep path; and few things are finer than the appearance of the naked vertical walls of granite and frowning jagged precipices enclosing the little cove that opens below. This, and two other similar but rather smaller inlets, equally characterised by their lofty, vertical walls, and rocky bottom, with numerous caves, complete the coast line as far as the Grève de Lecq, a well-known sandy bay, to which there are two good roads from the interior of the island.

The descent to the Grève de Lecq from St. Mary's church is exceedingly pretty, and richly wooded with many varieties of trees. The other descent from St. Ouen's manor house, is even more picturesque, though the road is not so good. The bay itself is pleasing, but not remarkable, either for rural beauty or rocky scenery. Mounting the cliff again on the west, from which a fine view of the Paternoster rocks* is obtained, a rough path leads over the shoulder of the hill, and descends to a gully, in which is a pretty waterfall, and a small cavern, with a broken foreground of boulders and detached rocks, some of them of very large size. The cave is overhung with ferns.

Pursuing the path along the cliffs, one or two somewhat similar gullies are past, and one deep narrow fiord, with lofty vertical walls of granite, perfectly inaccessible from above, and into which a little stream tumbles precipitously down some

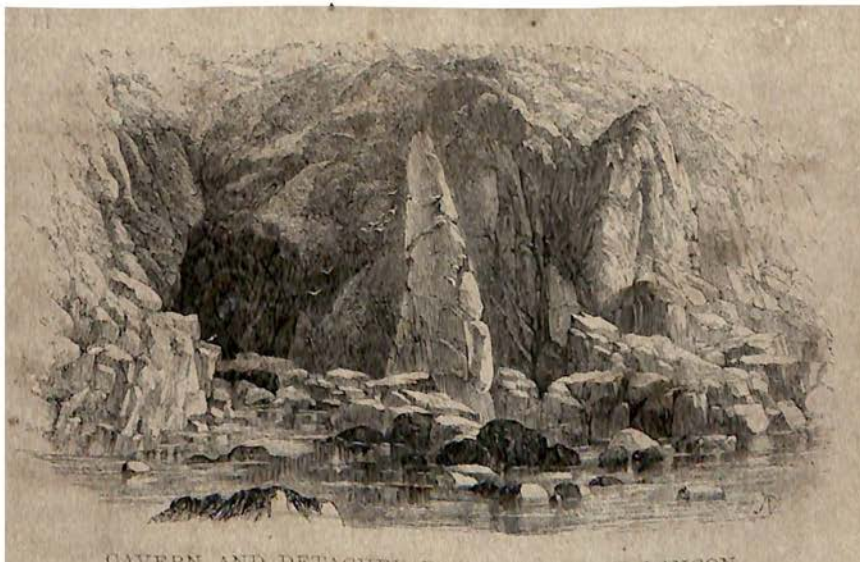
* These rocks are also called Pierres de Lecq.

eighty or 100 feet to a shingle beach. A little further on, we reach the headland of Plémont, almost detached by two deep cuts, one on each side, affording another example of a Coupée, so characteristic of the Channel Islands. On the north side, besides the inlet forming the Coupée on that side, there are several caves, all entering the rock through natural clefts, worn out of soft veins in the granite. None of them is very remarkable. On the other side there is a descent, by no means difficult or dangerous, into the "Grève au Lançon," one of the finest of the small bays of the Channel Islands. No one can be said to have seen what is best worth seeing of Jersey scenery, without a visit to, and a careful examination of, this singular and most beautiful spot. The bay is not more than about 1000 yards across, receding about half that distance from Cape Grosnez on one side, and Plémont Point on the other. One small fragment of land is already detached on the Plémont side, but only by a narrow channel, two or three yards in width.

A much larger headland, forming Plémont Point, is almost detached, as already mentioned, and a small fort has been built on the neck that connects them. Of the two deep natural cuts that form this neck, that one looking towards the Grève au Lançon is far the most striking, although both are vertical and inaccessible. The descent on this side is by a path on the slope of Plémont Point, continued by steps on the granite, at first artificial, and then natural, till we reach the fine sweep of smooth sand that stretches away to the opposite side. The bay is enclosed by precipitous cliffs. For the most part these are lofty, as well as inaccessible. At one point, where the cliff is less lofty than elsewhere, a valley opens into the interior, conveying a stream of water, which falls over a wall of rock about fifty feet high, into a nest of caverns. Behind this valley, the hills rise rapidly, so that at a little distance the effect of a lofty enclosed bay is preserved, from whatever part it is regarded.

The great peculiarity of the bay, is the succession of noble

and picturesque caverns and deep narrow fiords alternating with rocky reefs, projecting for some distance into the sea. These are continued far beyond the lowest tide, extending, indeed, to the extremity of Cape Grosnez, under which is the last cavern. It is difficult to state the number of caverns in the bay with precision. Six may be visited in succession at all times, except near high water, and all are strikingly picturesque. Some are connected one with another by low; natural arches, but most of them are detached. The first enters by an open inlet forty or fifty yards wide, and more than sixty yards in length, before narrowing. The inlet continues in the same direction. On one side, however, to the right, it is open for another fifty yards, and to the left becomes a magnificent natural hall, perfectly straight, entering about 120 feet, with a width of nearly fifty at the entrance, and gradually narrowing. The height of the roof is some twenty feet or more, and the floor is strewed with large perfectly rounded pebbles, and large rocks of extremely white granite, although the walls are of pinkish and dark grey stone.



CAVERN AND DETACHED ROCK, GREVE AU LANCON

Some distance beyond the first opening is a group of three caverns, connected by a low, natural arch, and having in the foreground a remarkable group of detached rocks, pinnacles, and large boulders. A cascade—the water falling exactly over the entry of one of the caves, which is situated between two others, all visible from the same point, produces a variety of rock scenery only to be met with in the Channel Islands in this remarkable bay. In front of the caverns, and on the rocks immediately adjacent, is a wide expanse of perfectly smooth and unbroken sand, over which the water ripples gently with the advancing or receding tide. An engraving, from a sketch taken outside the principal cavern, will be found in the last page.

Past this singular group the opening to another fine cavern is seen, but the cavern itself is not very easily entered, owing to the intervention of large and rather deep pools of salt water. Near this the telegraph cable from Guernsey is conducted over a small deep inlet, and once more there is a gloomy archway, from the extremity of which one may see exactly across the bay to the inlet and cavern first described. Other broken rocks and partial caverns are observable beyond, but they cannot be reached.

From a path on the cliffs, at some height above the sea, the hardy pedestrian may still pursue his investigations, and he will discover many other fiords that occur with singular regularity and parallelism, between this point and Cape Grosnez. It would be quite impossible to communicate an idea of the wild grandeur of this scenery, for it must be very nearly approached to be at all understood, and is not an excursion fitted for those who are timid or delicate. The inlets are all narrow; but in some a rocky islet breaks the water into foam, and increases the savage character of the view. Most of them are floored with vast masses of granite; some angular, some rounded; and they all enter at right angles to the coast, with a degree of formal squareness, very singular, and only to be understood when we consider their origin, and the peculiarly systematic

character of the veins of soft rock that once penetrated the granite, and whose former existence they now mark. The headland called Grosnez, is marked by a picturesque ruined arch,* and the views from it are extremely striking. It is the north-westerly point of Jersey.

From Cape Grosnez, round to the south-west, the cliffs continue almost vertical, and are extremely broken; but not in the same manner, or with the same regularity, as on the other side. The inlets are more rugged and wider, but hardly more easily reached; and a horizontal vein of basalt is the cause of a step-like appearance at the point called Rouge Nez, which is very striking. A little further we reach one of the most singular isolated rocks in the island. It is called La Pule, or the Pinnacle rock, and is almost detached, although a grassy slope still remains connecting it with the cliff behind. This grand pinnacle rises almost vertically out of the sea, and cannot be less than 150 to 180 feet in height. It is entirely granite, but presents a singular appearance of parallel layers of rock, inclining inland. A sketch of it will be found in the chapter on modern geology, taken from a picturesque headland a little to the north.

The land in this part of Jersey is high, and nearly level, but not cultivable near the sea. It is called Les Landes, and is covered with tufts of heather, with a small growth of furze; but there is no great thickness of soil, and occasionally some tracts of marsh intervene. The cliffs are at first precipitous, and continue so for nearly two miles beyond Cape Grosnez, when they fall back a little, and a transverse valley opens, through which a good road runs into the interior. At this angle of the cliff is the remarkable and prominent rock called l'Etac.†

Few single rocks on the coast of Jersey are more picturesque

* *See* the vignette, referred to in the index of illustrations.

† *L'Etac—le Tas*, the heap, as in Sark, where the same word is changed to *l'Etat*. The shape of l'Etac is pyramidal, and seen at a distance it has the form of a pile of stones.

than this detached pyramid. It is not very lofty, but in form—in the associated cubical and broken blocks of granite behind—the martello tower below—the roads winding and twisting to the bottom, and the houses of the little village clustered by the road side—the floor of rocks, black with sea-weed, spreading out far into the sea—and the mixture of a certain amount of vegetation with all these sources of the picturesque:—in all these points the picture is one not easily forgotten.

At l'Etac the Bay of St. Ouen opens. It is without exception the grandest, the most picturesque, and the least visited of all the Jersey bays.* Stretching across, in one noble sweep of more than five miles, from north to south; and receding to a range of hills forming a semi-elliptical back ground, nearly four miles in its shorter semi-diameter; this magnificent bay is almost everywhere covered with sands, half a mile wide at low water. The coast is, however, broken by several rocks, which become more and more prominent towards the south, and there terminate at the Corbiéres†—a group of very grand and picturesque rocks, jutting out into the sea with extreme boldness. Of these we shall speak again presently. Beyond the sands at this, the south-western, as well as at the south-eastern extremity of the island, is a far-spread floor of granite, out of which project many rocky pinnacles. Elsewhere in the bay, the hills rise gradually and gently, and are covered to their summit by blown sand, whose intense whiteness and brilliancy, and the total absence of any other than a thin, grassy vegetation, insufficient to hold back the sands, is one of the most marked characteristics of this

* This latter statement applies only to the stretch of the bay towards the Corbiéres. The small village of l'Etac is one of the common resorts of tourists and islanders, for summer pic-nics; but the distance from St. Helier's leaves little time to explore the coast.

† Many of the common names of rocks are the same in all the islands, and for a manifest reason. The Corbiéres are haunts of the cormorant here, as in Guernsey, and the Moie, an adjacent headland, has the same reason for its name as in that island. L'Etac, also, we have already explained, is a corruption of le Tas.

singular district. It must not be supposed, however, that the sands on the hill slopes near St. Ouen's Bay, are without signs of life. At short intervals in most parts, but especially in the middle, where the granite has been replaced by a kind of rotten shale, there is evidently good soil and fair cultivation. Numerous farm houses are dotted over the wide plain, and are seen on the rising hills; and there is thus by no means the air of desolation that a sandy waste suggests. The hills that enclose the bay are, perhaps, from 100 to 150 feet in height, and they slope at first rapidly, and afterwards more gently, to a wide stretch of perfectly flat land, defended from the sea only by the ridge of sand hills near the present high water line. There is every evidence of the land having formerly extended further out to sea; and the roots of trees are occasionally drifted in, after heavy south-westerly gales. At present, the sands seem advancing into the interior, slowly but steadily, and have already overwhelmed many pieces of land, once cultivated and built upon.

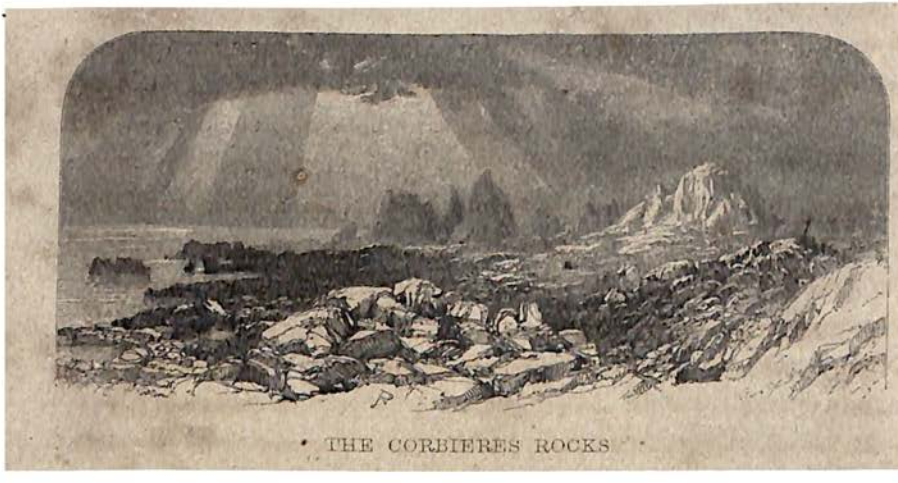
Near the centre of this flat tract, is a large pond or lake of fresh water, inhabited by several kinds of fish. The fresh water enters this pond from the drainage of the surrounding country, the rain sinking into the loose sands, and oozing out again near the contact with salt water.

The southern part of St. Ouen's Bay is extremely bold.

About a mile before reaching the Corbiéres is a picturesque little castle on a rock, detached at high water, called la Rocca. Beyond this and connected with it, are ledges of granite projecting into the sea. For a long distance there are no intervals between the rocks, except a number of narrow channels intersecting them in long lines, parallel and at right angles to each other. Some of these channels are used as cart roads for the sea-weed, at extreme low water, but they soon fill with the rising tide, and then form serious obstacles; preventing any advance on foot from point to point.

As we approach the Corbiéres the scenery becomes very

striking, although the cliffs are not lofty. Looking back before reaching the rocks, across some of the deep inlets running into the land, views of the most varied and extreme beauty are obtained.



THE CORBIERES ROCKS.

The Corbiéres rocks, represented in the above engraving, are detached at high water, but a broad causeway of boulders and jagged ends of granite connects them with Jersey during a large part of each tide. Their varied and broken outline, whether seen from the sea or the neighbouring shore, is always in the highest degree picturesque. They rise in majestic grandeur, forming a fine extremity to the island in this direction, and group well with every rocky bit of coast with which they are seen. It is not difficult or dangerous, though somewhat tedious, to reach them from the land; but as the tide rises rapidly and to a great height, it would be very unwise to remain on them long after the tide has turned. Though steep, they may be easily climbed; and there is some variety of vegetation in the crevices. A flower of the sea-thrift was plucked from them during a fierce and intensely cold east wind, on the last day of the year just past (1861), and no doubt they bear a constant succession of such plants as live and flourish in a salt atmosphere.

Beyond the Corbiéres the cliffs rise very rapidly and very boldly, and the view of them obtained from the rocks is wild and magnificent. The most remarkable object between them and Moye Point, is a nearly detached promontory, resembling the little Coupée of Icart, in Guernsey; but yet more striking, owing to the presence of two high pinnacles of granite projecting from it—one of these overhangs the sea, and both are highly picturesque.

At Moye Point are two chimney-like holes, perforated probably by rain water through a cliff of large angular fragments of granite. These creux or holes are approached by a narrow path from the signal station. They are quite close to each other and the bottom may be reached under favourable circumstances of tide. They are constantly changing from year to year, and the scenery around is wild and severe.

From the Moye there is an exceedingly broken coast for some little distance, the most remarkable part of which is a little natural recess in the cliff, called Beau Port,* presenting examples of wild rock scenery that can be visited at all times and seasons, by any one who is prepared to walk half a mile over moorland. Turning off from the road to the Corbiéres, a little before reaching the sixth mile stone from St. Helier's, a path leads to within a few hundred yards of this remarkable spot. Within an area of a few acres there are several pinnacle rocks and aiguilles of all sizes and proportions—noble, rugged and picturesque masses projecting into the sea, and huge fallen fragments, forming caverns, with entrances like those to Egyptian temples. In one place there is a singularly-grotesque figure, accurately resembling a human head, of Titanic proportions, placed immediately over such a doorway, and looking down upon a sea of fragmentary rocks, fallen from above. There are few things in Jersey better worth seeing than this, by those who can appreciate savage, rocky grandeur, such as Salvator Rosa might have loved to

* This is represented in the title to Part III.

paint. The distance from St. Aubin's, from which there is constant communication with St. Helier's, is about two miles.

From all the projecting headlands in this neighbourhood, views are obtained of St. Brelade's most beautiful bay; but before reaching that bay there is another delicious little cove, sandy, like St. Brelade's, but with fantastic rocks, jutting out from the ground to some height. The cove is terminated towards St. Brelade's by a waste of similar rocks, with deep gullies traversing them and cutting into the interior. The rocks are called the *Creux Fantomes*—the fairy caves—and deserve this fanciful name.

St. Brelade's Bay extends from les Juteurs, about a mile from Moye Point, as far as Fret Point, the termination of a promontory, stretching out between St. Aubin's and St. Brelade's bays. From near the church, which is situated on the westernmost extremity of the bay, to a rocky point, called la Cotte, which projects into the sea, is a space nearly a mile across, covered by a level expanse of sands, unbroken by a single stone larger than a small pebble. At high water, a large part of these sands is covered; but at all times, and under all circumstances, there is enough sand to give a character to the bay, and contrast well with the hills that rise in sweeping and fine lines on all sides. St. Brelade's is eminently pleasing; it has few features of grandeur, but is admirably adapted for residence; and several pretty houses and villas are distributed over it. It is not in any sense monotonous, though very regular; and is well worthy a prolonged visit. A view of the bay, and the rocks and headlands beyond, is given at the end of this chapter.

A wide tract of open table land, more or less cultivated in places, but chiefly covered with furze and heather, separates St. Brelade's from St. Aubin's bays. At the eastern extremity is a small tower—Noirmont Tower—which serves as a sea mark; and between Fret Point and Noirmont is a little picturesque bay, open to the south, having a single rock of good size, covered

with a martello tower, rising boldly out of the centre. It is called Portelet Bay, and is enclosed by bold hills and cliffs.

The eastern side of the promontory we are now describing forms the western boundary of St. Aubin's Bay. Almost two miles from Noirmont Point is the small town of St. Aubin's, with its diminutive harbour and castle. This part of the coast is bold and fine; and in clear weather commands noble views of the bay and town of St. Helier's, Elizabeth Castle and the Hermitage rocks forming a back ground, to the exclusion of the straight lines of the harbour. St. Aubin's is a small, neat town, with good roads from it in two or three directions. It lies in the entrance of a picturesque valley running up towards the dreary Quenvais and nearly reaching St. Peter's church.

On a small islet near the harbour is the little castle just alluded to, bearing about the same proportion to the town it defends, that its sister castle of Elizabeth does to St. Helier's.

St. Aubin's Bay is wide and recedes considerably; but, although the hills rise well and are covered with houses and villas, the general effect is not particularly good. On fine days in summer, the rich clothing of vegetation gives great beauty, but the lines of the high land are too straight and too unimportant to justify the terms of admiration sometimes used in describing the bay.*

Elizabeth Castle, and the adjoining Hermitage Rock, are among the prominent objects from St. Helier's, and form an im-

* No doubt this opinion of St. Aubin's Bay is very different from the one generally recorded. Like so many other bays, it has been compared by its admirers with all the standards of bay beauty; and it is certainly calculated to please, by its wide, calm sweep, those who come to it for the first time after a disagreeable excursion across channel. It really wants, however, many essential elements of the picturesque, and is not equal to many of the other Jersey bays. Thus: St. Ouen's, seen from a near point, is grander; Grouville is more varied; and almost all the bays on the north side of the island are wilder and more effective. None of them, however, really resemble those bays where the land behind is either richly cultivated or mountainous, because table land of no great elevation is a characteristic feature of the island of Jersey, and is never lost sight of.

portant feature in every view of St. Aubin's Bay. The approach to the Castle is along a natural causeway of loose pebbles, accumulated owing to the meeting of tides. At low water the sands and rocks are dry, far beyond the Castle; but the tide rises rapidly, and many persons have been drowned while attempting to cross at improper times, or at night. The length of the causeway is fully half a mile. The castle is large, and contains barrack accommodation for five hundred men, besides stores, but it is not now used for troops, only a small detachment of the coast brigade being stationed there. A small square tower is shown, in which Sir Walter Raleigh is said to have resided when governor; and this, with some other historical recollections, are interesting. A fine view is obtained of St. Aubin's Bay from the keep, which is merely a shell of masonry, built round a rocky pinnacle to prevent escalade.

On another of the three or four isolated rocks of this group, is an ancient building called the Hermitage. It would seem that this rock must formerly have been much larger, and it was perhaps connected with one adjoining, but the sea has made great inroads. There are remains here of an old cliff, consisting of angular rocks mixed with sand, which distinctly point to the time when the sea had not yet separated this rock from the land of Jersey. Elizabeth Castle and the Hermitage are both figured in this volume.

We have now described the whole coast of the beautiful island of Jersey, and have endeavoured to indicate the various points most interesting, as well as those most remarkable for picturesque beauty. It is the coast of a table land, having few valleys in the ordinary sense of the word, but wonderfully indented, wherever the cliffs come close to the shore. To these indentations belong small coombs, terminating within a few hundred yards of the shore, sometimes with small short ravines; but very frequently these are mere fiords or canals, having lofty vertical walls, terminating abruptly. Occasionally, water falls over the edge in

picturesque cascades, and at various points are caverns, not of large proportions, but abounding in wild beauty. Where the coast is less broken there are bays, some small and rocky, with pebble beaches; others sandy, but all beautiful. The larger bays are sandy; and between each of them and the table land, is an interval of flat land, subject to the drift of blown sands.

The interior of Jersey is altogether on a larger scale than Guernsey, and has little resemblance to that island. Round most of the western side, the greater part of the southern, and the southern half of the eastern, the land near the sea is either low and flat, or rises only in sand hills from the shore, so that here, as we have just intimated, there is a belt of country nearly flat, and more or less fertile, according to the absence of sand, and the predominance of decomposed rock. As the rock on the western side is chiefly shale or imperfect slate, and on the eastern side some variety of quartz rock, there is a good natural explanation of the difference. The same peculiarities of physical condition greatly affect the drainage, so that while a good deal of water passes over the high land, and descends the hill sides, comparatively little reaches the sea.

Jersey may be divided naturally into table lands, generally cultivated to the edge; sand-covered hills, generally barren; sandy plains, with a very light soil, well adapted to certain kinds of cultivation; and valleys. There are also granite promontories at the south-eastern and south-western extremities, and one or two spurs of granite projecting beyond the table land into the bays.

The table lands are by no means flat, uninteresting plains, as is the case on a small scale in Guernsey, Sark, and Alderney. They are broken by small winding valleys, and these are traversed by small streams, of sufficient power to turn mills while descending, but generally losing themselves when they enter the plains. Of the whole number, St. Peter's valley is one of the prettiest; and this, with the valleys leading to the Grève de Lecq and the Mouriers, both opening to the north and com-

mencing at the head of St. Peter's valley, nearly divide the island into two unequal halves. The Mill brook, running through the middle of the island, and a small brook behind St. Helier's, are less important, but point out the position of many pretty dells and small dips, all of which, as well as the course of the larger streamlets, are covered with vegetation, and offer innumerable picturesque morsels of scenery, that the artist would love to sketch, and that form the delight of the tourist. So varied and so pretty, and also so easily accessible are all these beauties, that they are in many cases the only things seen in the island by the hasty traveller. They differ chiefly from English scenery in Devonshire and elsewhere, by occupying a much smaller space, and being, therefore, more quickly changed as we pass from point to point. At short intervals throughout the higher parts of the island, as well as in the valleys, there is a constant succession of houses, generally surrounded by cultivated ground.

We miss, however, in travelling through Jersey, the picturesque old cottage, with its round arched doorway, and its patch of garden, covered with fuchsias, geraniums, verbenas, and myrtles. In no respect is the difference of climate more marked than in this. Such plants grow freely and well; but they apparently want more shelter and care than in Guernsey, and are certainly far less common, and far less characteristic. The houses throughout Jersey are eminently unpicturesque, and even if thatched, the style of thatch is formal and unpleasing. In this respect the larger island is greatly inferior to the smaller.

There are several principal roads through Jersey, all of course diverging from St. Helier's, and most of them at once rising, but all communicating with each other on the high ground by good cross roads. The main roads run nearly parallel to each other, and are rarely half a mile apart, and very numerous lanes wind about in every direction, apparently without other purpose than to deceive the traveller, as it is safest to conclude that they do *not* lead in the direction they would seem to do. What they

want in utility is, however, fully made up in beauty. They are planted with trees on each side, and all objects that can be seen at a little distance are framed or buried in tree vegetation, in the most singular manner.

Rarely, however, can anything be seen on either side of the high hedges, and one may wander for hours without coming to any more remarkable or recognisable object than one of the little pyramidal spires of a country church. Most of the churches are as ugly, and in as bad taste as the houses; but this is due partly to modern improvements, as several have one or two windows, a corbel, a buttress, or some other little remains of architectural decoration, showing that they were not always the whitened sepulchres they now appear.

It would be useless to enumerate where all is bad; but that there is still something picturesque left in the towers, seen through the trees under favourable circumstances, will be evident from the sketch of St. Mary's church, presented in the vignette in another page. Grouville church is pleasing, and St. Brelade's, though not unpicturesque, is chiefly interesting for its great antiquity.

Although in various parts of the island there are houses of some pretence and considerable size, there are few that call for special description. One or two of the manor houses are interesting, but even these are too much modernised to admit of more than casual mention. Perhaps the manor house of St. Ouen is not the best, but it is certainly the one most talked of. It is a large rambling pile of building, approached through an arched gateway, of the time of Henry the Seventh. The central part is more modern, being of the date of Charles the Second, and the wings are recent, and of no style whatever. The whole exterior has been modernised in the worst taste. The hall is a fair specimen of its date, and there is a good oak staircase. There is also a small, square, massive tower in the building, probably the oldest portion. This manor has long been held by the De Carteret

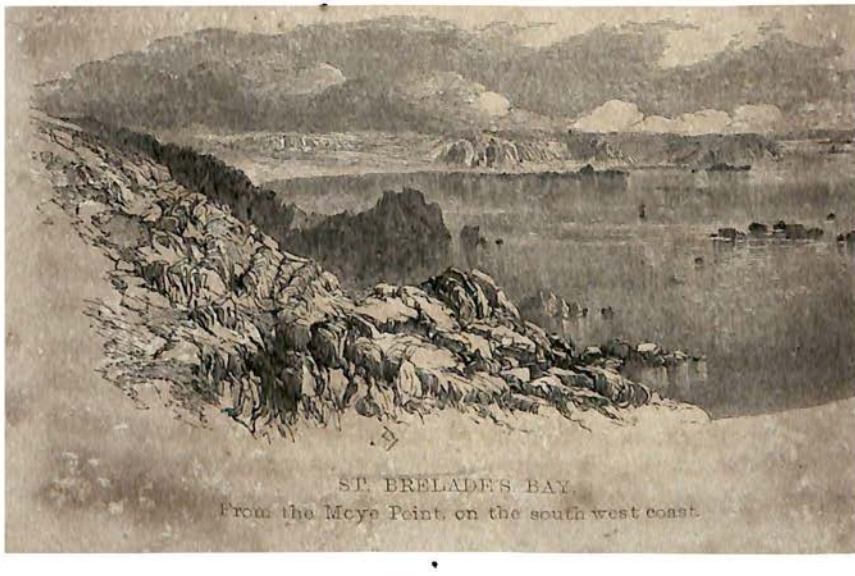
family, and is still in the possession of a collateral line, to whom it has descended. A formal garden is laid out in front of the house; but this is more modern than the building. The manor house of Longueville, near Grouville, and that of Samares, both remain. The former is the best, and has a pretty doorway.

In various parts of the island are low hills of artificial origin, locally called "Hougues." Most of these, perhaps all, are extremely ancient, and some of them cover cromlechs. Some, also, are surmounted by towers of modern date. As in summer it is difficult to find a position in the interior sufficiently high to look over the tops of adjacent trees, the two or three instances where these towers are available as look-outs, are thought much of, and are generally visited by strangers.

One of the favourite points of view in the island, and certainly one from which a large part of Jersey and its beauties may be seen, is the top of a tower of this kind, about three miles to the north-east of St. Helier's, called La Hougue Bie, and sometimes the Prince's Tower. In fine weather the whole of the eastern part of the island, and the seas adjacent, may be clearly distinguished from it. One is astonished at first to find that so very slight an elevation as it possesses should give such a result, and the more so, as the view from the foot of the tower is very limited. The great extent to which Jersey is wooded; the fact that the trees, though well grown, are nowhere lofty; and the fact that this part of the island lies naturally rather high, together account for the effect. In the tower itself, and the tumulus or hillock on which it stands, there is little to remark. A tradition, or rather a legendary narrative, said to be found in the "Livre Noir de Coutances," is quoted in the guide books, and relates how a certain Norman seigneur hight De Hambye, having ventured across the raging seas from the land of Normandy, in search of adventure, and not having returned, his lady caused this mound to be raised in token of her affection, on some subsequent revelation that the death of her husband

had taken place at this spot. A chapel was then erected on the mound, and finally the tower was built over the old chapel towards the close of the last century.

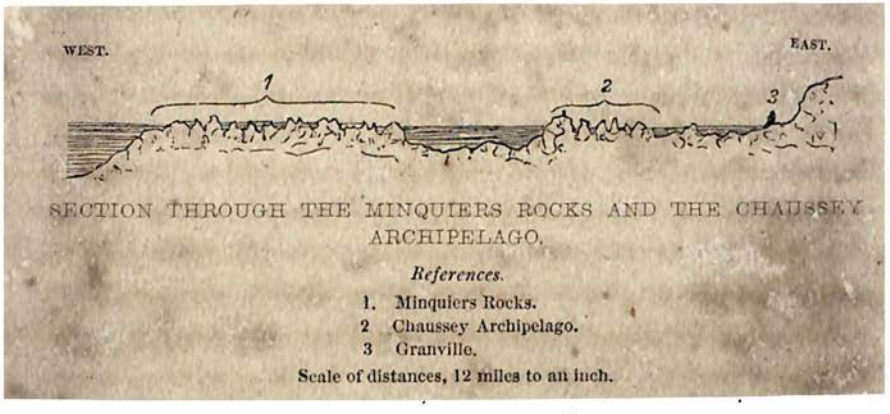
The view from the Prince's Tower is rather pleasing than strikingly beautiful. On three sides the sea is seen, and the numerous rocks that bristle up round the island form a curious fringe to the green clothing of its surface. The breaking up of the surface into hills, and the numerous little resulting valleys and gorges which form the real beauty of the island, are hardly perceived, and the eye wanders from point to point, over an alternation of wooded and cultivated patches, which towards the west form a fine horizon. Towards the north the rocks called the Dirouilles are clearly made out, and to the south-east and south, the line of the French coast is distinguished readily enough, the Chaussey Islands and Minquiers, in those directions, marking the peculiar dangers of the navigation of these waters. The adjacent bays stretching from St. Catherine's, round the south-east point of the island, to St. Aubin's and Noirmont Point, may be traced, and the old fortress of Mont Orgeuil is recognised as a landmark.



ST. BRELADE'S BAY.
From the Moye Point, on the south-west coast.

CHAPTER VI.

THE CHAUSSEY ARCHIPELAGO AND THE MINQUIERS.



SECTION THROUGH THE MINQUIERS ROCKS AND THE CHAUSSEY ARCHIPELAGO.

References.

1. Minquiers Rocks.
2. Chaussey Archipelago.
3. Granville.

Scale of distances, 12 miles to an inch.

THIS southern group contains but little land permanently above the level of the water; but it includes a vast extent of shoals, broken rocky islets, ledges of rocks, and reefs, producing an exceedingly dangerous sea, traversed by a few channels of small width. Together, these rocks form a broken line ranging about W.N.W., extending from near Granville to the outermost group, called the Roches Douvres. The part nearest Granville and the French land is the highest out of the water, but the middle portion, including the great bank of the Minquiers, is the largest and the most dangerous. For thirty miles out from the French coast, in the direction of these rocks, there is no water ten fathoms deep, and there are few safe passages even for small ships. Beyond this is an open space of about twenty miles, ter-

minating with the outlying groups of rock, which rise abruptly from tolerably deep water.

The "Plateau des Minquiers," is the name of a group of rude, irregular, dreary, dangerous rocks, rising like needles out of the sea, and connected by ledges of shingle and sand, and beds of mud, the whole occupying a space nearly nineteen miles from east to west, and nearly ten from north to south. This bank connects eastwards by shoals and shallow water with the Chaussey Islands and the French coast, there being nowhere ten fathoms of water in the interval. The extreme distance from the east end of the Minquiers bank to the French coast, a little north of Granville, is eighteen miles. The north side of the bank lies about twelve miles south of St. Helier's, and the south side eighteen miles north of St. Malo.

The highest rock of the Minquiers, called the "Maitresse Ile," lies in a direct line between St. Helier's and St. Malo. It is the largest of the group, measuring about 200 yards by fifty, and is seventy-two feet above high water neap tides. There are several huts on it, and some traces of vegetation; but it is only used as a resort for fishermen, and during the vraicking season. There is no spring of fresh water on it. A small cove near it affords partial shelter for small vessels.

The rocks called "Les Maisons," at the western part of the group, are nearly as lofty as the Maitresse Ile, but are smaller.

A large extent of low rocks, called "Les Fauchéurs," ranging nearly three miles from north-east to south-west, and a mile and a-half wide, occupies the central position among the Minquiers, but none of the rocks have any considerable elevation. Round the outer margin of the area of the plateau are a number of rocks and shoals, rising out of water nearly ten fathoms deep. They form long and very dangerous rocky ledges. There are also numerous sand and shingle banks, some of which are well known, and much resorted to for turbot and other fish. It would be tedious and useless to describe the multitude of inter-

ruptions to navigation that occur in this complicated shoal. Another very dangerous range of banks and rocks occupies nearly the middle of the passage between the Minquiers and the Chaussey Islands. The principal of these are called "the Ardents" in the English charts. They are visible only at low water.

Two small groups of the Channel Islands and banks that we next refer to, occupy nearly the same position with reference to the Minquiers, that the island of Guernsey does to Jersey. One group is called "Les Douvres." It is a dangerous rocky ledge, with twelve rocky heads always uncovered, the whole within an area measuring about four miles by three. The highest rock is in the centre, and is nearly fifty feet above the water. About three miles south of the Douvres is another similar ledge, called the "Barnouic," of about the same area, but lower, and even more dangerous, as the sea sometimes breaks over its whole extent. It lies rather more than twelve miles from the French coast.

The Douvres rocks are sometimes seen from Guernsey, and an abandoned ship, drifting near them, was lately discovered and brought into St. Peter's Port. A view of this wreck, and of the rocks, forms a tail-piece to the present chapter.

The Chaussey Islands lie about eight miles west of the Rock of Granville, and nine miles north of Cancale. The distance of the principal island from Jersey is about twenty-eight miles; but that, and others of the group, are seen from the cliffs near the Corbiéres, where they form with the Minquiers a singular fringing reef on the horizon. The whole group of rocks and islands occupy an irregular area, measuring six and a-half miles from east to west, and five miles from north to south. The largest island, called La Grande Ile, is the furthest to the south, and is the only one of any importance.

Approaching the group from Granville the effect is very singular. At first one is inclined to imagine that a nearly continuous wall of rock forms a kind of natural breakwater, parallel

to the coast of the Cotentin. A nearer approach dissipates this impression.

The rocks and islands are not lofty, and they are so regularly broken, as to give them an appearance of battlements in a ruined state. Advancing near them, openings are seen in the apparent wall, which resolves itself soon into a chain of islets, so closely grouped as to admit of little more interval than would be sufficient for a boat to pass. They stretch along in a nearly straight line, and deep water is found immediately beyond this line; so that one may sail almost close to them, paying due attention to tides and currents.

All the islands are broken masses of granite rising a little above the highest sea level, and worn by water and weather, so as to have picturesque and even grotesque forms. On some of them are little towers, striped so as to be recognised; on others are masts; and on others, again, heaps of stones; all these artificial objects being important sea marks. On two or three of the larger islands are huts—miserable habitations enough—serving as a temporary shelter for one or two herdsmen, who in summer resort here to pasture a few sheep or cows, on the tufty, wiry grass that grows on them. A large proportion of brambles, furze and broom seems to be mixed with the coarse herbage.

Nearing the principal island (the Grande Ile), several of the smaller ones are seen picturesquely grouped to the east; and the appearance of these becomes very striking, when the channel is entered that separates this larger island from the others. They seem dotted about in a semicircle like some vast Druidical monument rising out of the sea and stopping further approach. A narrow and concealed passage exists to a small cove (the Sound of Chaussey); but there was at the end of the last year (1861), no landing-place, pier or port of any kind. A pier and good harbour are, however, in course of construction.

The Grande Ile de Chaussey is rather less than two miles in length, but its form is exceedingly irregular; and its greatest

width much less than the length. The land consists of a number of low hummocks of rocky granite, decomposed in places, and covered with coarse grass, except where the rock juts out. These hummocks are connected by rocky causeways, some exposed and some covered at high water. The land descends by a somewhat easy slope to the small sound, where there is always good anchorage. To the north rises a hill called Gros Mont, and to the south the island terminates in a somewhat elevated cape known as the Pointe Marie. To the west is the succession of hills, one of which, called the Mont de Bretagne, is surmounted by the ruins of a fort erected during the seventeenth century, probably on the site of a monastery abandoned in 1543.

On the inner slope of these hills is the principal cultivation of the island. There are here several houses and farm buildings, some enclosed fields and meadows, and an orchard. Near this point, also, are some quarries of remarkably fine, tough hornblendic granite of excellent quality.

The rest of the island is uncultivated and covered with fine close grass, mixed with many flowering plants and wild thyme, with occasional dog roses, crowned with flowers or berries. On the side of the rocks brambles are numerous, and the sheltered spots abound with peppermint, borage, and wild mustard. Part of the Mont de Bretagne formerly served as a burying place, and has been planted with broom, which has thriven admirably.

The inhabitants of the archipelago were formerly congregated about the slope near the quarries; and amounted in number to about a hundred. At this time the seigneur was very careful not to jeopardise his feudal rights, by allowing land to pass out of his possession. Lately, the government has purchased part of the island, for the erection of an extensive fort and other public works; and as many as eight hundred labourers are employed. They are lodged in temporary barracks, and as they require large supplies, there is, for the present, a considerable amount of traffic carried on with the port of Granville.

Fresh water is obtained in the Grande Ile from a remarkable spring which never dries, and which gives water of excellent quality, sufficient to supply ships as well as the inhabitants.

The occurrence of a spring at this point, in so small an island, and with no adjacent high land, is a curious fact. Its water is probably supplied from the main land through some vein. The granite appears to exist in bands or strata almost horizontal, but veins of clayey and other mineral traverse these strata and other veins of mica and quartz have been noticed.

The interstices of the rock are generally filled with a red friable stone, called rotten-stone.

Spreading bays, with smooth sand beaches, covered with many shells and fragments of shells, separate the hills and hummocks on the west side, but all these beaches are partly covered with angular rocks and with boulders, more or less rounded, these latter marking the progress of weathering, and measuring in some degree the rate of destruction of the granite above.

From the Gros Mont an excellent view of the Chaussey Archipelago is obtained. At the highest tide, fifteen islands and about as many detached rocks may be counted, and these seem almost on a level with the waves. As the tide ebbs, the rocks become converted into islets, the islands become larger, higher, and more important, and are seen to be connected by rocks covered with various kinds of marine vegetation, among which is a large proportion of that singular plant, the *Zostera marina*, serving in the place of grass to remove all appearance of the recent presence of the sea, and connecting the rocks into one large island, indented by a few channels. At the same time, numerous rocks, before quite invisible, appear above the surface, looking like the broken fragments of some mountain, hurled into the sea. "Blocks of every variety of form and size are grouped together in a thousand different ways, some rising into pyramids, others graduated and cut into irregular tiers of steps, others again heaped into confused masses, like the ruins of some

giant structure; at one place, appearing like colossal Druidical stones; at another, entangled together like the rude materials of some Cyclopean edifice, or else suspended, and so slightly poised that a breath of air seems sufficient to overthrow them."* More than fifty distinct and detached rocks and islets can then be counted, although most of those seen at high water have become merged into a single island.

A good deal of business is done on the Chaussey Islands. Besides the farmers and farm labourers, and those engaged on the government works, there is a mixed population of stone cutters, fishermen and barilla-collectors. Of these, the fishermen are the most important, and as many as seven or eight families of them are established on a small headland close to the Sound. Their habitations are primitive, consisting of huts, enclosed only by rough walls three or four feet high, the stones cemented by the mud or oaze of the Sound. The roofs of these huts are the remains of old boats turned upside down. In each of such miserable dwellings, ten or twelve feet long and not quite so wide, sleeps a whole family, consisting often of father, mother, sons, daughters, nephews and nieces, besides occasional friends from the main land, attracted by the prospect of a day's fishing. The principal fish caught, is, however, no fish at all, but lobsters, of which each family is estimated to take annually from eight to nine thousand. They are sold at Coutances and thence conveyed to Paris.

Besides the lobster fishing, shrimping is carried on by many of the women, who may be seen with their nets on their shoulders, following the indentations of the shore, and searching carefully for their prey, under stones and rocks, and in little pools. This is, of course, only possible when the tide is out. M. de Quatrefages, in the book already quoted, states, that at the time of his visit, as much as two and a-half tons weight of

* "Rambles of a Naturalist," by A. de Quatrefages, translated by E. C. Otté, vol. i., p. 17.

shrimps were annually obtained from the islands, and that the greater part of this large supply was conveyed to Paris.

The stone cutters are the most numerous of the three classes of Chaussey inhabitants. The material they work on is a pale blue granite, very hard, tough and durable. It is used not only in the neighbourhood, and at Granville and St. Malo, but is carried into the interior of France. Most of the quarry men are Bretons and live in wooden barracks.

The sea-weed on the rocks round Chaussey is largely used in the manufacture of barilla, and supplies employment to an important section of the population. The fucus* is stripped from the rocks at low water, and collected into large masses, which, when the tide rises, are floated away as rafts to some convenient spot, whence at the next turn of the tide they are brought out of the reach of the waves, and scattered over the sands to dry. When dry, the whole is burnt, and the ashes melted in a small kiln. The produce in this state is the barilla of commerce.

The population of the Grande Ile is somewhat migratory. As the winter comes on, the barilla collectors are the first to depart—then the quarry men gradually drop away, and lastly, the fishermen give up their occupation, leaving only a few farm labourers as tenants of these storm-beaten shreds of land, during the short days and the long and dreary nights of winter.

In former times these islands were more peopled, and were peopled by a different class than they are at present. Their name, like that of most of the other Channel Islands, denotes that they were known to, if not occupied by, the Northmen. An abbey, or religious house of some extent, was established on the Grande Ile at an early period, and the island was then the resort of hermits. The abbey dates from the time of Richard, the first Duke of Normandy, and it was dependant on that of Mont St. Michel. After various changes, it was passed,

* *Fucus nodosus*, *F. vesiculosus*, and *F. serratus* are the three kinds of vraic that yield the chief supply.

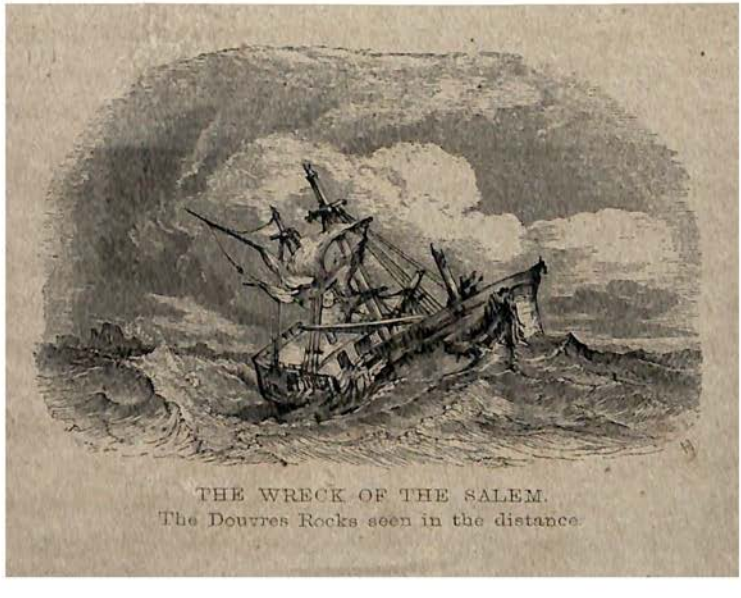
in 1343, from the hands of the Benedictines to those of the Cordeliers, by Philip de Valois, then King of France. For two centuries it continued of some importance as an educational institution, the registry of the see of Coutances showing that three or four candidates were sent thence, on several occasions, for ordination. Subsequently, during the wars with England, the abbey was pillaged, and it was finally abandoned in 1543, after which, for a century, there would seem to have been no inhabitants except a few small proprietors who may have earned a scanty subsistence, but were too poor to tempt pirates. At the time of the French Revolution, the ownership was made over to the state, but it has since passed into private hands.

Several of the smaller of the Chaussey Islands are named, and some are very interesting to the naturalist. They are separated from neighbouring rocks and islets by narrow and deep valleys, with precipitous rocks on each side; and at low spring tides they are so rich in marine zoology, as to rival even the caverns of Sark. These have been admirably described in the work by M. de Quatrefages, already referred to, and the reader may turn with pleasure to "The Rambles of a Naturalist," for an account at once accurate and popular of those marvellous productions of the animal kingdom, with which the rocky shores of all the Channel Islands especially abound.

Till lately, the only public building on the Chaussey archipelago, was a light-house, the light from which is visible fifteen miles at sea, being at an elevation of 120 feet. For some time past there has been much activity shown in constructing, near the light-house, a fort of some strength, which will render the adjacent harbour, also in course of construction, perfectly safe from attack. It is not easy to imagine, that any evil can result to the larger islands of the Channel group, or to English interests, from the conversion of Chaussey into a stronghold. The position of this little archipelago in the deepest recess of the great bay formed by the coasts of Britany and

Normandy, no doubt enables a fortress placed there to command the approach to the adjacent land; but the peculiar run of the tide, the vast extent of sand at low water, and the innumerable rocks further out at sea, are natural defences, superior to any that can be placed there by man. The English certainly ought not to complain because their neighbours endeavour to make the most of the very few and small advantages they possess in these islands, when we consider the far greater importance and accessibility of the British possessions in the Channel. Alderney is not further from the French coast than the 'Grande Ile' of Chaussey; but the one island is so placed as to command a great and wide channel through which a large proportion of the whole commerce of the world must pass, while the other is only approached by a few small and unimportant vessels, for it leads nowhere, and can threaten nothing.

The subjoined illustration represents an abandoned ship laden with teak, wrecked in the Channel and seen drifting towards the Douvres rocks, in the winter of 1861.



THE WRECK OF THE SALEM.
The Douvres Rocks seen in the distance

CHAPTER VII.

CLIMATE AND METEOROLOGY OF THE ISLANDS, AND THEIR SANITARY CONDITION.

THE geographical position of the Channel Islands indicates at once to the physical geographer, the peculiarities that are likely to be presented in their climate, and in the meteorological phenomena to which they are subjected. Placed near the western extremity of the European continent in a wide channel, communicating without interruption with an open ocean; situated not far from the main land, but within the influence of a group of much larger islands; enclosed within a large bay, of which a part of the group forms one of the horns, and whose form greatly influences the tidal wave:—these conditions suggest causes of local climate, well worthy of consideration, and all pointing to one conclusion.

In the first place it must be mentioned as an ascertained fact, that near as the islands are to each other, to France and to England, their climates are in essential points distinct and local, and need separate consideration. We should, therefore, consider the peculiarities of one typical island, and then compare this with the others.

Guernsey, from its position as the outlying island—the most completely in the centre of the Channel—the furthest removed from land—of medium size and of medium elevation, compared

with the other islands—must be regarded as typical in respect of climate.

To be satisfied that this is the case, the reader need only refer to the physical map at the end of this volume, and consider the relative positions of all the islands and the nearest land. Alderney is within seven miles of France, and has an important group of rocks protecting it from the west. Jersey is double the size of Guernsey, only half the distance of the latter island from France, and is more in the heart of the great bay. Sark is very peculiar in its extreme smallness and the near approach made by its surface to a level, lofty table land; but as respects climate, it must receive the westerly winds after they have left Guernsey, and the easterly winds before they reach it; thus, in every sense, rendering Guernsey the typical island.

Under these circumstances, it cannot but be regarded as eminently fortunate, that since only one of the Channel Islands has had the advantage of systematic observations, extending over several years, this island should be Guernsey; and in referring to the annexed tabular view, it is satisfactory to be able to direct attention to it as containing a near approach to absolute results. The period of observation does not include the years since 1858, inasmuch as they have been exceptional in many respects, and probably form part of a cycle not yet completed, whilst the sixteen years selected appear to complete two climatal cycles.

N.B. The instruments employed in making the observations from which the table is constructed were as follows:—(1.) *Barometer;* made by Henry Barrow; compared with the standard by Mr. Glaisher. (2.) *Thermometers;* dry and wet bulb and maximum instruments made by Negretti and Zambra, index error determined by Mr. Glaisher; minimum thermometer made by Newman, on Rutherford's construction; all four feet from the ground, and many yards from other objects. Wet and dry thermometers read at 9 a.m. and 3 p.m. Minimum and maximum, at 9 a.m. Corrections for daily range applied from Mr. Glaisher's tables; barometer correction for elevation above sea level not applied. (3.) *Rain Gauge;* a copper funnel and cistern; the contents measured by a graduated glass jar. Instrument twelve feet from the ground, and quite free from the influence of trees and buildings.

ELEMENTS OF THE CLIMATE OF GUERNSEY.

MEAN RESULTS OF OBSERVATIONS EXTENDING OVER SIXTEEN YEARS.

FROM JANUARY 1st, 1843, TO DECEMBER 31st, 1858.

BY S. ELLIOTT HOSKINS, M.D., F.R.S., F.R.C.P., MEMBER OF THE BRITISH METEOROLOGICAL SOCIETY.

[Latitude of Station, 49° 27½′ N. Longitude, 2° 32′ W. Height of Station above mean sea-level, 204 feet.]

OBSERVATIONS.	Jan	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.	Mean of 12 Months	MEANS OF SEASONS. March. April. May. Spring	June. July. August. Summer.	Sept. Oct Nov Autumn	Dec. Jan. Feb Winter.
Barometer corrected and reduced to 32°	29·811	29·852	29·851	29·771	29·813	29·872	29·882	29·818	29·896	29·762	29·817	29·905	29·838	29·812	22·857	29·825	29·860
Elastic force of vapour	·262	·254	·256	·230	·334	·403	·452	·447	·433	·368	·306	·274	·334	·278	·433	·367	·264
Pressure of dry air	29·549	29·598	29·595	29·541	29·479	29·469	29·432	29·371	29·463	29·399	29·511	28·631	29·504	29·539	29·424	29·458	29·596
Range of barometric readings	1·316	1·096	1·225	·980	·911	·760	·706	·701	·993	1·218	1·212	1·220	1·028	1·035	·722	1·141	1·219
Mean temperature of air—corrected ..	43·6	42·5	43·5	47·4	52·	57·8	61·	61·1	58·8	54·	48·7	46·5	51·6	47·7	59·9	53·8	44·2
Mean temperature of dew point ..	39·3	37·9	38·8	42·4	46·	51·6	55·1	54·6	53·6	49·2	43·7	40·7	46·1	42·4	53·8	48·8	39·4
Mean dryness—thermometric scale ..	4·3	4·5	4·5	5·0	6·	6·2	5·9	6·5	5·2	4·8	5·0	5·8	5·5	5·3	6·1	5·0	4·8
Mean humidity—hygrometric scale ..	·866	·877	·859	·857	·836	·861	·848	·827	·868	8·50	·852	·847	·854	·851	·845	·857	·862
Highest readings of max. thermom. ..	54·5	56·	61·5	66·	73·	80·	83·5	79·	76·	70·5	62·	59·	83·5	73·	83·5	76·	59·
Lowest readings of min. thermom. ..	24·5	27·	27·	34·	39·	44·	50·	50·5	48·	41·	30·5	29·	24·5	27·	44·	30·5	24·5
Mean monthly range of temperature ..	20·5	19·6	21·8	22·6	24·8	25·4	22·2	20·3	20·1	20·4	19·7	20·1	21·4	23·1	22·6	20·1	19·9
Mean daily range of temperature ..	6·4	7·1	7·8	9·3	10·5	11·6	10·7	10·	8·5	6·7	6·1	6·2	8·1	9·2	10·8	7·1	6·7
Amount of rain collected..	3·844	2·362	2·238	2·513	2·231	2·100	2·339	2·032	2·711	5·082	3·788	3·526	34·766	6·982	6·471	11·581	9·705
Number of days of rain, hail, or snow..	18·3	13·6	13·5	13·4	10·5	10·	10·8	10·8	11·2	18·	16·8	17·5	161·5	37·4	31·6	46·2	49·3
Mean amount of cloud	6·2	5·6	5·	4·6	5·	4·8	4·7	5·6	4·5	6·1	6·	6·1	5·4	4·9	5·	5·5	5·9
Force of wind, by estimation	1·8	1·6	1·7	1·6	1·6	1·5	1·4	1·5	1·7	1·7	1·7	1·7	1·6	1·7	1·5	1·7	1·7
Number of days on which the wind blew from .. .. N.E.	6·3	8·3	11·6	10·3	12·4	9·4	7·1	7·4	12·6	6·8	7·5	7·5	107·2	34·3	23·9	26·9	21·7
N.W.	9·8	8·4	8·	9·2	7·9	8·6	10·4	12·5	7·4	9·	9·7	8·7	109·6	25·1	31·5	26·1	25·0
S.E.	6·4	4·2	4·7	4·	3·6	2·3	2·2	1·7	3·3	4·5	5·8	5·7	48·4	12·3	6·2	13·6	16·5
S.W.	8·5	7·1	6·7	6·5	7·1	9·7	11·3	9·4	6·7	10·7	7·	9·1	99·8	20·3	30·4	24·4	27·8
Mean amount of ozone (2 years) ..	3·1	1·6	3·	3·9	3·	3·	2·1	3·1	3·9	4·3	4·2	1·7	3·5	·3	2·7	4·1	3·8

The elements of climate may be considered to include the distribution of heat through the different days, months, and seasons, the variations of the pressure of the air as indicated by the barometer, the direction and force of the prevailing winds, the quantity of rain-fall and its distribution through the year, the dryness or moisture of the air from time to time, and the electric state of the air. To understand these fully, it will be necessary to refer to each in some little detail.

And first with regard to temperature. It will be seen from Dr. Hoskins's table, that the average annual temperature of Guernsey is 51⅓°, and the following diagram will show how little this varies from year to year, and will also point to a significant fact, namely, that there has been during the period of observation one cycle of five years, during which the temperature was higher than the mean, succeeded by another cycle, also of five years, during which it was lower. We appear now to be entering a third cycle, which promises to be exceptional. The cycles of temperature do not thus appear to correspond exactly with the cycles of general climate.

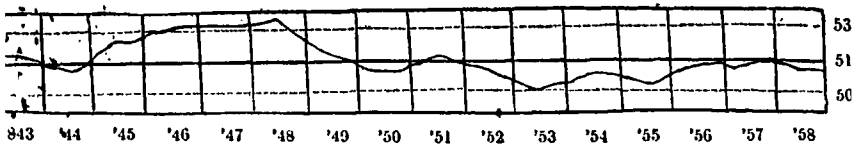


DIAGRAM.

Illustrating the range of the mean annual temperature at Guernsey, from 1843 to 1858 inclusive.

In the diagram, the middle line, 51⅓°, marks the absolute mean, and the waved line, ranging above and below it, the actual mean of each year of the sixteen. The positions of the means of 50° and 53° (the extremes) are each indicated by a broken line.

The adopted mean temperature at Greenwich being 49°, it is evident, that on the whole, the climate of Guernsey may be regarded as 2⅓° warmer. This, though itself a considerable increment, gives little idea of the nature or extent of the whole difference that exists between the two stations. In order to

obtain this, we must compare the different months and seasons, and then compare the daily ranges of the thermometer. The former comparison will show any essential variety in the seasons, the latter any variety in the day and night temperatures. It would be quite possible for two stations to have the same mean annual temperature, the summer in one being very hot, and the winter very severe, while in the other the summer and early autumn are cool and uniform, and the winter and spring extremely mild. So also there would be a great difference in climate, if the average daily temperature of two places were the same, but in one, hot days were followed by frosty nights, while in the other the days were comparatively cool, and the nights never chilly.

As we must not here enter into much detail, it will be sufficient to make the comparisons in a general way. Taking the means determined by Mr. Glaisher, from observations extending from 1814 to 1856, as our standards of comparison for Greenwich, we have the following view of the relative climates of the two stations at different seasons of the year :—

	Greenwich.	Guernsey.
Spring months (March, April, May) .	46·9°	47·7°
Summer months (June, July, August) .	60·6	59·9
Autumn months (Sept. Oct. Nov.) . .	49·9	53·8
Winter months (Dec. Jan. Feb.) . .	38·2	44·2

Whilst, therefore, the temperature of the year in Guernsey is only 2½° above that of Greenwich, it appears that the autumn temperature is four degrees, and the winter as much as six degrees, warmer. On the other hand, there is only a difference of one degree in the spring months, and the summer months are more than half a degree cooler in the island than in the south-east of England.

If, again, we take the six coldest months in the year, from November to April inclusive, and compare the temperatures of

Guernsey and Greenwich, dividing this period into two parts, we shall find as follows:—

	Greenwich.	Guernsey.	Difference in favour of Guernsey.
November	43·2°	48·7°	5·5°
December	39·3	46·5	7·2
January	36·6	43·6	7·0

The difference thus indicated is very marked, and points to the most favourable peculiarity of the Guernsey climate, namely, the continuance of a mild autumn temperature to a very late period of the year. It will be seen that the temperature of November at Greenwich corresponds with that of January in Guernsey, while November at Guernsey differs little from October at Greenwich.

If we take next the remaining three cold months, we shall recognise another of the Guernsey peculiarities; namely, the cold spring advancing but slowly into a cool summer. Thus we have the following elements of comparison:—

	Greenwich.	Guernsey.	Difference in favour of Guernsey.
February	38·6°	42·5°	3·9°
March	41·4	43·5	2·1
April	46·2	47·4	1·2

Hence, during spring months, the difference between the island and England gradually becomes less and less; the temperature in Guernsey advancing very much more slowly than at Greenwich. This continues through the succeeding months of summer, and it will be seen by the following figures; but between May and August, the differences are all in favour of England.

	Greenwich.	Guernsey.	Difference in favour of Greenwich.
May	53·0°	52·0°	1·0°
June	59·0	57·8	1·2
July	61·8	61·0	0·8
August	61·1	61·1	0·0

Lastly, if we take the two months of autumn, which in England are often cold and particularly trying, both for the human constitution and for vegetation, we shall see another marked difference. The mean temperature of September, at Greenwich, is 56·5°; in Guernsey, 58·8°; the difference, 2⅓°. The October mean at Greenwich, is 49·9°; at Guernsey, 54°; the difference then being more than 4°.

Combining the observations of mean temperature and comparing Guernsey with Greenwich, we see, therefore, that in Guernsey the spring is a little warmer than in England, and the summer rather cooler. In Guernsey, however, the temperature of July and August continues, with little change, into September and October, the summer and autumn differing little, and the latter extending into the months which in England are regarded as mid-winter. Winter may therefore be said to be absent altogether as a season, in Guernsey, but on the other hand, the spring is cold and late.

The climate thus indicated corresponds, no doubt, much more closely with that of the west of England and parts of Ireland than with that of Greenwich. We shall see, however, presently, that in many important points there is little resemblance with these districts.

But climate is even more influenced by the range, than by the actual mean height of the thermometer. In most parts of England, many days of spring, summer and autumn, are warm; but the nights following them are extremely chilly, and even frosty. Night frosts, in fact, are common at these times; and vegetation and health are influenced accordingly. Such facts are indicated by the mean daily range of the thermometer.

In Guernsey, this range is so small as to be altogether exceptional among northern climates. While at Greenwich, as shown from an average of ten years, the mean daily range is 16·2°; in Guernsey it is exactly one-half, or 8·1°. In this, however, as in the temperature, it is not so much the annual average as the

distribution of the averages that is significant. The following tabular statement of the mean daily range of each month will point out the essential facts.

	Greenwich.	Guernsey.		Greenwich.	Guernsey.
April	19·1°	9·3°	October	14·6°	6·7°
May	20·2	10·5	November	11·7	6·1
June	20·8	11·6	December	9·5	6·2
July	21·3	10·7	January	10·0	6·4
August	20·0	10·0	February	12·3	7·1
September	19·8	8·5	March	15·2	7·8

The difference of the climates thus indicated is total. At Greenwich, the range of temperature is greatest in June, July and August, when the days are longest and the heat greatest; showing that in those months, the thermometer, although highest in the day, descends lower, in proportion, at night. In Guernsey, the greatest range is in June, when the weather is by no means hottest, but even then it is little more than half the Greenwich average. Much the smallest range at Greenwich is in December; but in Guernsey, the range scarcely varies from the beginning of November to the end of January. During the spring months, March, April and May, when the absolute mean temperature differs but little at the two stations, the range increases from 15° to 20° at Greenwich, and only alters from nearly 8° to 10½° at Guernsey. Thus, the night temperature differs gradually less and less from that of day in the small island; and frost is by no means indicated by an amount of reduction in the mean temperature which elsewhere necessarily involves such a result. The days of summer are not very hot, but the nights are comparatively warm, and there is hardly any chill in the night air at any time of the year. On the other hand, the days of spring are uniformly cold; the summer does not commence early; and, in the summer days, the heat is rarely extreme.

While the mean temperature in Guernsey is subject to so little change from day to day, and month to month, neither are the changes from hour to hour more extreme. The absolute

maxima and minima recorded, are very much below those of any part of England or France. There has been, we believe, no higher reading of an accurate thermometer than 83° ever recorded in Guernsey; and no lower reading than 24·5°.* The former was observed in the summer of 1847; the latter, on the 29th January, 1848. It is very rarely, indeed, that the thermometer has descended below 29°. The annexed diagram will

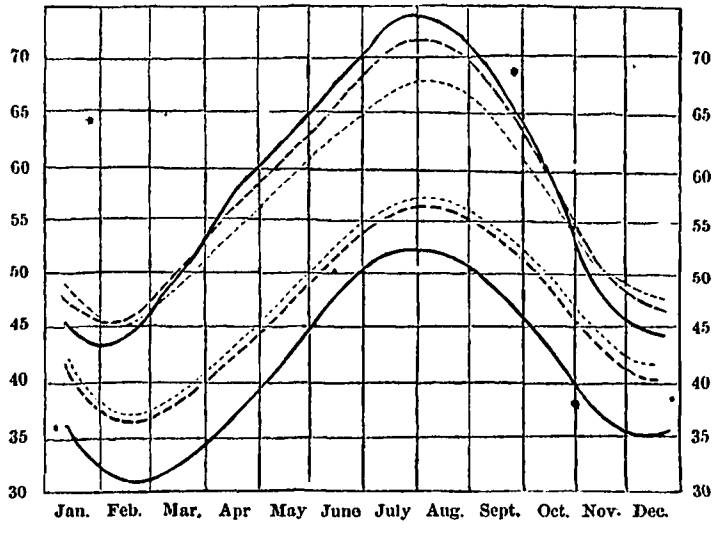


DIAGRAM.

Representing the highest and lowest readings of the maximum and minimum thermometer during the year, at Guernsey, Jersey, and Greenwich, respectively.

In this diagram, the upper set of lines marks the maximum, and the lower the minimum ranges. The unbroken line represents Greenwich, the broken line Jersey, and the fine dotted line Guernsey. The figures at the side mark the degrees of Fahrenheit's thermometer.

illustrate this peculiarity, and show the relation between Guernsey, Jersey and Greenwich in this respect.

* It is stated, in "Duncan's History of Guernsey," that in January, 1838, the thermometer fell as low as 22°, and in December, 1840, to 17·5°. As the lowest recorded temperature in London, in the latter month, was 21·2°, it is exceedingly unlikely that the Guernsey observation was correct, and more probable that there is a clerical error, the real record having been 27·5°. The instruments used, however, were not authenticated. There is good reason to believe that, though occasional extreme cold or heat may be experienced in the island, it is not only exceptional, but lasts for a very short time.

It is much to be regretted that there are no well recorded observations, extending over a series of years, that enable us to compare the climate of Guernsey with that of the western extremity of England or the best parts of Ireland. What is known of those climates would lead to the conclusion that they are warmer in summer and colder in winter, and show a greater daily range of the thermometer than Guernsey. A long series of observations is required for accurate comparison, but we may safely state that there is no recorded climate, and probably no climate whatever, in north temperate latitudes, on either side of the Atlantic, that presents so small a daily range of the thermometer, as the island of Guernsey. We shall presently see how far this peculiarity is accompanied by others that may be regarded as favourable to health and vegetation. It must be very evident that such an equable condition of the temperature as is shown by the thermometer, so few rapid changes and sudden chills, cannot but have a great influence on the human constitution as well as on vegetable life.

One singular illustration, with regard to vegetation, is too striking to be passed by without remark. It appears from careful observation, that in spite of the low temperature of the Guernsey spring months, many kinds of flowering plants and shrubs are at least a fortnight earlier there than even in the warmer parts of England; and in the face of the fact that the summer is cooler than at Greenwich, the ripening of fruit in the open air during July, August and September, is invariably some days earlier in Guernsey. The small daily range of the thermometer is no doubt a main reason of these singular results.

Let us next consider the pressure and motion of the air over Guernsey, so far as these influence climate.

The mean height of the barometric column measures the pressure of the whole atmosphere. For our purposes at present, it is not so much the height as the variations of height, marking variations in pressure, that are useful for comparison; and these

are so, because they mark the progress of waves in the atmosphere on which depend many important meteorological phenomena. It may be observed of Guernsey generally, that the fluctuations of the barometer are frequent but moderate. The mercury stands generally higher there than at Greenwich, but the excess is not considerable, and the range is not so great as might have been expected.

On the average of sixteen years in Guernsey, the pressure of the air has been greatest in September and December, and lowest in October and April. In that island, as in England, it is generally greater in the summer than in the winter months.

The variation of the barometric column, although by no means necessarily connected with a corresponding variation in the direction and force of wind, is best measured by that result in enquiries respecting climate. The winds certainly affect and qualify the climate of Guernsey to a very remarkable extent, and require special attention; but, unfortunately, there exist few materials for useful comparison.* Dr. Hoskins has tabulated the results of many years' observations in this as other matters; and from them we may deduce results to a certain extent reliable.

In ordinary years it does not appear that the absolute force of the wind over Guernsey is on the whole excessive, although squalls of wind are certainly very frequent and sometimes very violent. North-west winds blow on an average 109½ days; and north-east winds 107 days, during the whole year, leaving 100 days of south-westerly wind, and less than fifty of south-easterly.

The months during which north-east winds chiefly prevail, are September, May and March, in the proportion of 12½, 12½ and 11½ days respectively. In August there is a preponderance of north-west wind. In April, north-east and north-west winds

* The measurements of the direction and force of the wind are generally too much dependant on mere estimation to be of value for comparison. Unless they can be recorded by instruments, they are inevitably very vague.

are about equal. In July, and also in October, there are more than ten days of south-west wind.

From October to February inclusive, the winds are most nearly divided; but in no month are there, on an average of years, more than 6½ days of south-easterly wind.

On the whole, winds from easterly quarters prevail slightly in March, May, and September, and winds from westerly quarters during the remaining months. During June, July, August, October, and January, nearly two-thirds of the weather is from westerly quarters; and during March, April, May, June, August, and September, nearly two-thirds is from northerly quarters.

"A struggle for pre-eminence between the north-west and north-east winds, generally leads to thunder-storms, with hail showers, and bleak raw weather. If the north-east prevails, a steady but not boisterous gale ensues, which in January, February, and March, is accompanied by frosty but fine weather: a few points to the north alter its character materially, and a breeze from N.N.E., blowing over England in winter, generally brings with it heavy but brief falls of snow, with gloomy boisterous weather.

"The north-east and east wind, so much decried, is by no means cold or unpleasant, unless strong, or of long continuance. On the contrary, the finest weather in spring, summer, and autumn, is associated with light breezes from this point of the compass. Direct progression from north-east towards the south, affords mild, genial weather in summer; but in winter the south-east wind brings with it frequent, but not heavy or lasting showers of snow, especially if cold prevails in France.

"The south-west here, as elsewhere in the same latitude, is the rainy wind; the veering, however, a point or more to the westward, brings sunshine and light showers. During early spring, if there has been continued snow and frost in England or France, followed by a sudden thaw, the south-west and south-east wind produce here a continuance of misty weather, with drizzling showers.

"At all seasons a sudden retrograde motion of the wind to the south-east often ushers in a gale of some violence; if accompanied by rapid and considerable depression of the barometer, the passage of a rotatory storm is indicated, the wind during its continuance gradually veering round to the north-west or west. These storms never last beyond twelve hours."*

It is much to be regretted that no measures have yet been taken to secure at Guernsey a wind observatory. The extremely sensitive state of the barometer, arising from the position and small dimensions of the island, and its comparatively unbroken surface, mark it as admirably adapted for a signal station, to foretel storms advancing from the south-west.*

The mean annual rain-fall in Guernsey is rather less than thirty-five inches, falling on one hundred and sixty-four days. October is the wettest month, but January the month on which the number of days of rain-fall is greatest. May, June, July, and August, are the driest months, rain falling on an average about one-third of the days in each week. October, November, December, and January, are the wettest months, there being from seventeen to eighteen days of rain in each. The rain falling in the four wet months is 16¼ inches; that in the four dry months, little more than 8½ inches. The remaining ten inches are distributed over March, February, April, and September; September being the wettest. More rain falls in the night than during the day.

Although the rain is considerable, the climate of Guernsey is certainly not inconvenient from wetness. During the wet months, a continuance of more than twelve hours' rain is very rare; and in summer, and, indeed, at other times, it rarely

* No apology is needed for reprinting the above remarks by Dr. Hoskins. They form part of a Memoir read before the British Meteorological Society, May 25, 1852, and afterwards published in the London Journal of Medicine, under the title, "Home Resorts for Invalids."

† Since the above remarks were written, the want alluded to has been supplied, by the liberality of a native of the island.

happens that a wet morning is not succeeded by a fine evening. On the other hand, a brilliant morning is rarely the precursor of a beautiful afternoon.

A clouded state of the atmosphere prevails with remarkable uniformity throughout the year. Estimating a completely concealed sky at 10, the mean cloudiness of the year is about 5½. April, June, July, and September, are slightly clearer than the mean, and October, November, and January, about as much cloudier. September is the clearest, and January the cloudiest month. Notwithstanding this tabulated result, it must not be supposed that there is any want of bright sunshine in Guernsey. The fact seems to be that changes are frequent, and occasional cloud common, while continued obscuration is rare.

Snow rarely falls in this island, and still more rarely remains on the ground for more than a few hours. It is generally brought by a south-easterly wind, late in the season. During the winter of 1844-5, and again in the exceptional winter of 1859-60, and at previous times, at intervals of from nine to twelve years, or more, a considerable quantity has been known to fall, and remain on the ground for many days.

Hail is more frequent than snow, and occurs at all seasons. Thunder is often heard; but electric storms often pass near the island, without actually bursting over it. The large quantity of glass in the roofs of conservatories, which are common in every part of the island, would suffer very seriously, if hail were so frequent and destructive as in many parts of England.

The air in the island of Guernsey is seldom saturated with moisture, although the mean humidity of sixteen years is as high as ·854. The extreme of humidity is in February, when the temperature is lowest. The driest month is August, when the temperature is a maximum. With the exception of June, which is a damp month, and that in which the daily range of temperature is largest, the months from May to August inclusive are the driest. In September the air is very damp.

May and June are often remarkable for dense fogs, commencing on the sea, and rising to 100 feet or more above the highest land. These often occur in weather otherwise fine, and when the air is perfectly clear on the English side of the Channel. On the other hand, fogs on the south coast of England do not often extend to the islands.

The total number of days of thick weather during the year is not large; but when they occur, these dense fogs are exceedingly disagreeable and are dangerous to shipping. Vessels are then not unfrequently drifted far away from their course, and even steam-boats, losing their course, have approached the land in exceedingly dangerous positions. Fortunately, there is seldom wind in this state of the atmosphere. On the coast, and within a mile or two of it, the fogs are often thicker than elsewhere. Dense inland fogs are by no means common, but such a state of the air sometimes occurs in the month of November, and sometimes in summer.

During spring and autumn there are very heavy dews. "Even at noon, of an exceedingly hot day, the dew-drops are not quite exhaled from the grass; at the north side of the hedge not during the day; at ten at night, the streets in the town wear the appearance of having received a hasty shower.

"From this moisture the after-grass receives great benefit, and its growth is thought to continue to a later period of the year than that of Jersey."—*Quayle's Report*, p. 242.

The electric state of the atmosphere has not been properly and fully recorded in any of the islands, but we have for Guernsey three years' observations, by Dr. Hoskins, on the ozone. Two of these were exceptional seasons, so that we are hardly justified in regarding the results they give as even approximate means. They would seem to show an average of 3·3. September to January, both inclusive, were, during these years, the months of maximum ozone; but April and May were nearly equal to them. July has been greatly the minimum month;

but February, March, June, and August, were all below the mean. The summer months, June, July, and August, afforded a remarkable contrast to the other seasons, in the much smaller development of ozone.

In an endeavour, by comparing ozone observations at different stations, to obtain an idea of the peculiarities of the Guernsey climate in this respect, we find that as far as the short period of the observations can be depended on, the development of ozone in the island must be regarded as particularly large. It is, at any rate, decidedly larger than at Oxford, a good inland station, and is also very much larger than at Helston, the only coast station in the south-west of England where records have been preserved. It is, however, worth mention, that although the total ozone for the year is greatest in Guernsey, the four months, March, April, May, and July, show a decided excess in Oxford. June and August, at these two stations, differ but little; whereas, from September to February, the remaining six months of the year, the excess of development in Guernsey is strongly marked. At Helston, the ozone development seems uniformly much smaller than at Guernsey, except in the month of March. The winter months, January to April, both inclusive, show the smallest differences.

A remarkable and very interesting ozone observation was made by Dr. Hoskins in Guernsey, during the great solar eclipse of March 15, 1858. It was elsewhere observed that the ozone developed was excessive, both before and during the eclipse; but at Guernsey, on the night preceding it, the discoloration of the test papers was at its maximum, that is, 10. From 9 A.M. to 3 P.M., on the day of eclipse, it was 8, and from 3 to 9 P.M. it was 7; a much larger amount than had previously been noticed even after a lapse of double the time.*

* Notice on the Meteorological and Physical Effects of the Solar Eclipse of March 15, 1858. Read before the Meteorological Society by James Glaisher, Esq., F.R.S., p. 10.

The climate of Jersey can with propriety be compared with that of Guernsey, only during the six years from June, 1850, to June, 1855, inclusive. During this time the observations of the Rev. S. King, M.A., F.R.A.S., are in all respects comparable with those of Dr. Hoskins. The observations, before and since, are not quite sufficiently trustworthy to be of value.

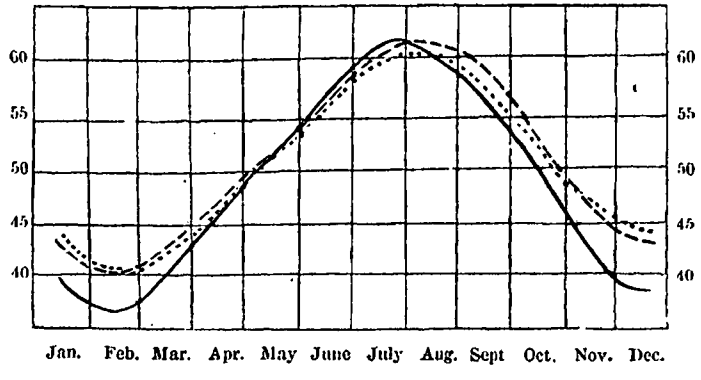


DIAGRAM.

Showing the mean temperatures of six years at Guernsey, Jersey, and Greenwich, during each month of the year.

In this diagram, the continued line marks the mean temperature at Greenwich; the broken line, that at Jersey; and the dotted line, that at Guernsey. The figures represent degrees of Fahrenheit's thermometer.

Assuming these six years for comparison, we obtain for temperature a result which will be immediately understood by reference to the above diagram. The mean temperatures of Jersey and Guernsey are almost the same; the difference being only three-tenths of a degree of Fahrenheit in favour of Jersey. The spring, summer, and autumn temperature of Jersey is pretty uniformly higher than that of Guernsey, while the winter temperature is somewhat lower. As, however, the difference for the months of February and March is very small, we may express the facts more clearly by saying, that from April to October inclusive, the mean temperature in Jersey is nearly a degree higher than in Guernsey; from November to January inclusive, it is nearly three-quarters of a degree lower, while in

February, and also from the middle of October to the middle of November, the means correspond. This indicates a somewhat more excessive climate of Jersey, due, beyond a doubt, to its closer vicinity to France.

The same fact is shown even more clearly by the range of the means in each case. Thus, in December, the mean range in Jersey is 7·7°, in Guernsey only 7°. In January it is 7·1° in Jersey, and 6·7° in Guernsey. In February, when the mean temperature is almost identical, the range in the one island is 7·3°, in the other 7·1°. So again in the summer months, the range in July in Jersey is 6·8°, and in Guernsey 6°. August alone shows a difference the other way; in that month the range in Guernsey is slightly higher than in Jersey, the mean temperature being more than one degree lower.

When we take the general averages over the whole period of observation, we shall find the same result, namely, the greater variability of temperature in Jersey. Thus, for example, it appears that during the six years recorded by Mr. King, the mean daily range of the thermometer in Jersey was 11·6°, and the mean monthly range 27·9°. In Guernsey, during the same years, the corresponding means were 8°, and 20·6°.*

The mean temperature of Jersey is slightly more variable than that of Torquay, though much less so than that of Greenwich. The following tabular statement, deduced from the

* It is singular that the mean daily range at St. Helier's is given by Dr. Hooper as 11·7°, a result almost identical with that obtained from Mr. King's observations. It is no discredit to Dr. Hooper to observe, that owing to the difficulty of obtaining standard instruments before the establishment of the Meteorological Society, most of the observations recorded by him are greatly in error. It will easily be understood, however, that a thermometer, very indifferently graduated, and of no value for recording the actual temperature, may still give a tolerably correct range; and the fact of the close approximation of the range recorded by Dr. Hooper to that which is obtained from the more accurate series of observations made by Dr. Hoskins, clearly shows the care with which the tables published by the former were prepared.—*See Hooper's Observations on the Climate of Jersey*, p. 87.

Registrar General's Reports, for the six years of good observations in Jersey, will be interesting. The means will be found to differ from the absolute means, as determined from longer observations at Greenwich and Guernsey, but they are perfectly available for comparison.

	Mean annual temp.	Mean daily range.	Mean monthly range.
Greenwich . .	48·7°	16·0°	36·7°
Torquay . . .	50·1	10·0	25·3
Jersey . . .	50·8	11·6	27·9
Guernsey . .	50·5	8·0	20·6

The more closely the comparison is made, the more distinctly will the peculiarities be brought out. In Jersey, in 1851, the mean daily range was 14·8°, and in 1855 only 7·4°; a greater difference than occurred at either of the other stations. In Guernsey the range was 8·7° in 1852 (this being the highest mean), and 7.4° in 1855 (the lowest). The monthly ranges also vary in different years much more in Jersey than in Guernsey.

The climatal difference between Jersey and Guernsey, determined by temperature, points, then, uniformly in the same direction, the range in the former island being in all respects greater than in the latter. Let us consider next the barometric pressure. Both in Jersey and Guernsey the range of pressure marked by the extent of undulations of the mercurial column, is very much greater in the six months from October to March, both inclusive, than in the remaining months. In both also, January shows the widest range; although in this month the difference between the range in the two islands is extremely small. In both islands, again, the month of July shows the smallest range; but in Guernsey, the range, though then at its minimum, is decidedly greater than in Jersey.

With the exception of June, when there is usually a larger variation of barometric pressure in Jersey than Guernsey, and February and November, when the difference is very small, the

range in each month is decidedly greater in the island which has the more insular position.

One important inference from these results of observation, and it is one perfectly accordant with what might be expected from geographical position, is, that the variation of the pressure of the air derived from advancing changes in weather, is more directly felt in Guernsey than elsewhere, either in England or in the other Channel Islands, the column of air over that island being less liable to interruption and interference by local causes. The amount of difference between the highest and lowest monthly means, is, however, greater in Jersey, as might also be expected. In one word, the changes in Guernsey are more numerous, but less considerable.

It not unfrequently happens that the two islands, short as the distance is between them, exhibit wider ranges of barometrical pressure than other places at far greater distances. This, doubtless, arises from the fact that they occupy very different positions with regard to the great atmospheric wave in its advance towards Europe. The direction of length or axis of that wave is more frequently north and south than east and west.

Guernsey is almost uniformly more cloudy than Jersey, the only exceptions being the months of February and December. In the former, the difference would seem to be pretty uniformly the other way. In the latter month and in January, the difference is too small to have significance.

As the sky is more frequently clouded in Guernsey than in Jersey, so the number of days of rain-fall is greater, and the quantity of rain that falls decidedly larger. During the six years of the joint record (from the 1st of July, 1850, to the 30th of June, 1855), there were in all 909 days during which rain fell in Jersey, and 931 in Guernsey; while the quantity of rain that fell was in the one island 188·6 inches, and in the other 207·7. The seasons may conveniently be divided into the wet, the medium, and the dry. The wet months are from October to Janu-

ary inclusive,—October being very much the wettest in both islands. The average rain-fall of this month in each island, during the years of record, was 5·7 inches, the maximum being in 1852, when no less than 8·2 inches fell in Jersey. Very nearly as much (7·9 inches) fell in the October of 1854; while in each year the fall in Guernsey was ·7 inches less. November and January are less wet than October, the rain-fall during each of those months in both islands being nearly the same. In December, the quantity of rain is considerably less than in November and January, but the number of days of rain-fall almost as large. So far as these months are concerned, the rain-fall is almost invariably heavier in Guernsey than Jersey, as might indeed have been expected, since rain generally comes from westerly winds, and these deposit their moisture on the land they first approach. On the setting in of cold in Europe, after the close of autumn, it would seem inevitable that Guernsey should receive more rain than Jersey. It does so, as is evident by the tabulated results.

The month of September (preceding the autumnal equinox) is comparatively a wet month in Guernsey, but not in Jersey. The number of days of rain-fall is then the same in each island, but the quantity of rain is one third less in Jersey. The month of March, however (preceding the vernal equinox), exhibits the same amount of rain-fall in the two islands, and this amount scarcely differs from that of September in Jersey, namely, 2·1 inches. May, June, and August, are wetter than March, the average being nearly $2\frac{1}{2}$ inches in Guernsey and about three-tenths of an inch less in Jersey; but here again there is a difference observable, May and June being nearly alike in the two islands, and August much drier than either of them in Jersey, although equally wet in Guernsey.

February, April, and July, are dry months in both islands, the average rain-fall being nearly the same; but February and April are equally dry in Jersey, and February much the driest in

Guernsey. The months in which rain falls during the smallest number of days are April, August, and September, in Guernsey; and April and September in Jersey.

The condition of the atmosphere, indicated by the term humidity, is very singularly different in the two islands. Air, fully saturated with moisture, being regarded as in the maximum state of humidity, and recorded as one, we find in Jersey that the mean state of the air is ·898 during the months of February and March, and it is only slightly drier in the months of January and October. These are the damp months.

From April to July the air is much drier, and in an extremely uniform state, the means varying only between ·851 for June, and ·859 for May. In November and December the air is still somewhat drier, though the difference is very small. August and September are the driest months, and the state of the air is then indicated by the mean, ·827.

In Guernsey, on the other hand, the maximum humidity, which never amounts to quite so much as in Jersey, takes place during the months of May, June, and July. During January, March, September, and October, the air is somewhat drier; but these four months, as well as the three already named, are all nearly as damp as the month of January in Jersey. Of the remaining months, February is the least dry, and December the driest. April, August, and November, are intermediate.

The monthly range of humidity, as taken from the means of six years, is very much less in Guernsey than in Jersey; in the former island being ·040, in the latter ·071. The lowest or driest mean recorded during the six years of observation was ·720, occurring in Jersey in December, 1855. The highest or dampest mean was ·980, also in Jersey in the February of the same year. The corresponding extremes in Guernsey were ·780 in December, 1855, and February, 1856, and ·959 in January, 1852.

It is evident, then, that the climate of Jersey is on the whole

drier and warmer than that of Guernsey, and the sky somewhat less clouded; that it is there hotter in summer and colder in winter; that the pressure of the air varies less frequently, but within larger limits; that heavier rain falls occasionally in Jersey, but that more rain falls during the year, and that it falls on a larger number of days, in Guernsey. In all these points we see that the insular character of the climate is much more strongly marked in Guernsey than in Jersey.

It must be observed that the conclusions arrived at in the preceding paragraphs, with regard to the comparison of Guernsey and Jersey are altogether relative, depending on simultaneous observations, thoroughly to be depended on, but conducted by competent observers only during a period of five years. As the record in Jersey has ceased since the death of Mr. King, in 1857, it must be many years before any better results can be obtained. Although, therefore, the general averages for Guernsey, as obtained from a much longer series of observations, and given in the notice of the climate of that island, differ from those above quoted, and change slightly with each year, it need not be assumed that had the Jersey observations been continued, the comparative result would have been other than is stated. The years 1850-1856, included about three average years, and three years during which the climate in the islands was worse than the average; and thus all the results are probably somewhat less favourable than they would have been, if they had extended over about three times the period.

It has been frequently stated in explanation of the difference recognised between the climates of Jersey and Guernsey, that the slope of the latter island is to the north, and of the former to the south. No doubt some shelter may thus be gained by Jersey from northern winds, and a somewhat larger quantity of heat is received from the sun; but in all important points there must be causes far more widely acting than this. What these are we have endeavoured to set forth in the preceding pages.

It may be well to repeat in this place, that the elements of the climate of Jersey, given above, do not correspond with those given by Dr. Hooper, in his work published in 1836. It has already been explained, that the instruments used by that gentleman were not trustworthy, simply because there existed at the date of his observations no standard of comparison.

Little is known of the climate of Alderney, and less of that of Sark, by actual recorded observations. It is generally considered that the air is drier and more bracing, and even somewhat colder in both these islands than in Guernsey; but this is only an estimate, and is not proved by any facts. No doubt, in these smaller islands, which are more distinctly table lands than either Jersey or Guernsey, the wind sweeps over them more uninterruptedly, and the weather is less affected by land causes. At Alderney, the weather generally, and the direction and force of the wind more especially, have been remarked as quite local, particularly at new and full moon. At these periods a difference of four points has been experienced in the wind's direction, between Alderney and the group of land including Guernsey, Herm and Sark, without noticeable difference in the reading of the barometer. The southerly, south-easterly, northerly, and north-easterly winds, especially the first and last, almost invariably blow from Alderney in strong, irregular gusts.

Certain general observations on the weather have been made at Alderney, which have been communicated by Mr. May, the resident engineer of the harbour works, through the kindness of the Rev. C. Robinson. From these, it would appear that south-westerly winds are decidedly more prevalent there than in any of the other islands; and north-westerly less so. There would also seem to be more wind from the south-east. The average rain-fall is stated at thirty inches.

It would be of great advantage to science, and would not fail to have a useful practical result, if accurate observations with compared instruments could be made at Sark and Alderney, for

a limited period, for the purpose of comparison with the Guernsey series by Dr. Hoskins.

All the Channel Islands agree in some general conditions of the climate. A general summary of these will be useful.

The equability and duration of autumn are, in ordinary seasons, extremely remarkable. Storms, and occasional heavy rains, usher in this season, but they are not succeeded by cold. In the intervals, up to the end of the year, the weather is remarkably fine and genial, with no night frosts. From the 10th October to the end of the month, is what is called St. Martin's summer; and the weather is then singularly agreeable. The same kind of weather often recurs in the middle of December.

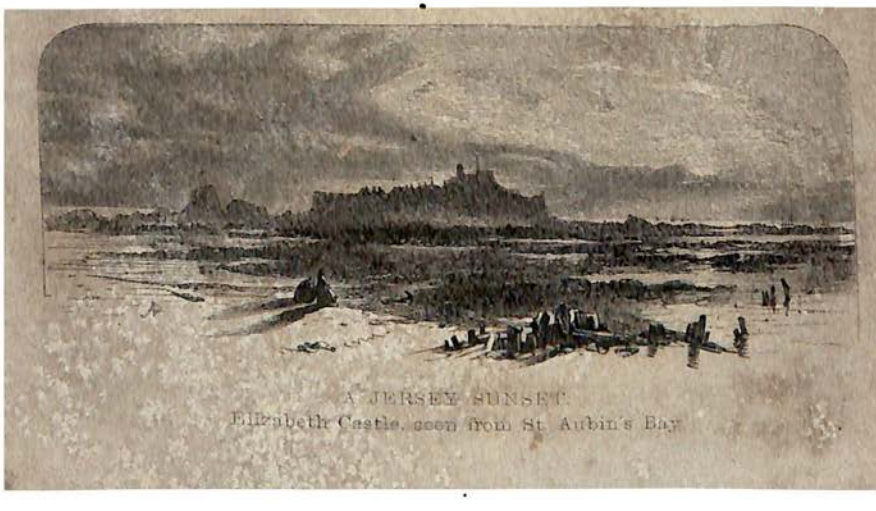
During the spring months the east, north-east, and north winds, and sometimes north-west winds are frequent and violent, and often extremely disagreeable. They feel cold, but do not bring down the thermometer. They are often very dry. The night temperature is still comparatively high; hoar frost being rarely seen, except in exposed, bleak, and high positions, and in the months of January and February. February is the coldest month of the year.

The days in summer are rarely hot:—the nights are cool and pleasant, almost without exception. The latter part of summer is generally fine and pleasant, passing into early autumn without perceptible change.

A general impression prevails that the climate of the Channel Islands resembles that of Penzance; but, unfortunately, there are no means of accurate comparison, no trustworthy record of meteorological events being kept at the latter place with sufficient regularity to justify conclusions being drawn. The mere impressions of persons inhabiting the localities successively, is no guide whatever to the nature of a climate, and it is wiser to say nothing than risk a false comparison. No doubt it is greatly to be desired on all accounts, sanitary as well as scientific, that a comparison should be made.

It is the opinion of nautical men, based on long experience, that the prevailing winds in the seas around the Channel Islands, generally blow during winter from S.S.E. round towards the south, or from the N.N.W., the latter being predominant. During summer, and in both equinoxes, the winds are variable. Easterly winds are believed to last longer here than elsewhere, when they once set in during early spring. Southerly and south-westerly winds, during that period, are almost always accompanied or followed by stormy weather, which does not change till the wind changes to north-west, in a direct course, going round from south by south-west and west. If the change is in the opposite direction, going round by the east, storms are almost sure to follow.

The sunrises and sunsets of the Channel Islands, but especially the latter, involve at all seasons some of the grandest and most beautiful atmospheric effects obtainable on the west coast of Europe. These sunsets are equally remarkable for the form and colour of the clouds, and the rapidity with which they change in these respects, and also for the softened tints of the sky. Seen from the cliffs on the south coast of Guernsey, or from the town of St. Helier's in Jersey, they are often especially interesting. The subjoined sketch of a winter sunset, observed from the sands in the eastern part of St. Aubin's Bay, near St. Helier's, is en-



A JERSEY SUNSET.
Elizabeth Castle, seen from St. Aubin's Bay.

graved from one of Mr. Naftel's happiest sketches; but it would require colour to do full justice to the original drawing.

Curious effects of irregular refraction (mirage), have often been observed in the islands, both from island to island, and from each island to the French coast. The line of sight is thus sometimes raised and sometimes depressed by as much as sixty or eighty feet, revealing objects that would otherwise be concealed, and placing others apparently much below their true position. Irregular refraction is generally the precursor of stormy weather.

The French coast is not unfrequently seen from Guernsey with singular clearness; objects on the shore of the nearest land, (which is thirty miles distant), being perfectly recognisable; and the form of the hills, and even the sweep of sands between low and high-water mark, being made out by the naked eye. The land of Sark, only seven miles off, is not much better seen in ordinary weather than the more distant French coast on these occasions. This unusual clearness of the air is also a sign of approaching change.

Although it is certain that we must look on the whole to the Atlantic for the causes of Channel Islands' weather and climate, still the mass of land to the east and north is too large and too near not to produce very marked modifications. This is exemplified by the constant battling of the easterly and westerly winds, the great frequency of northerly wind, and the consequent cold that prevails, when under other circumstances the air would be calm and warm. It is evident that were the greater part of Europe, and especially the lands near the north pole entirely submerged, these islands would possess a much warmer, moister climate than at present, and one far more resembling the climate of Norfolk Island, or other land at our antipodes, than any place in the northern hemisphere. Under such circumstances, the west winds coming in warm and damp from the ocean, would sweep quietly over our little islands, depositing heavy, warm rain. There would be a clouded sky much more

frequently than at present; the evaporation would be smaller; the radiation also smaller, and the difference between night and day, and even that between summer and winter temperature, almost nil. The effect of equable moist heat upon certain kinds of vegetation is well known, and we might under such circumstances have tree ferns, and palms, among our indigenous plants, and extensive deposits going on in swamps and at river mouths, not unlike those which have produced the coal measures. The ferns, already common and abundant, might, and probably would, be replaced by arborescent species, and be accompanied by gigantic equisetaceæ, and by forest vegetation of a kind entirely different from that now found. Trees now extremely rare, and many that are nowhere found in the north temperate zone, might then flourish here under conditions so favourable for vegetable life.

The existing fauna of the islands in the event of so complete an alteration of climate, might either be expanded into rich and almost tropical groups, or dwindled into a few species, representatives only of animals of low organisation. But all this might result from changes which would leave almost unaltered the mean annual temperature of the place; still less would it involve a change in the mean temperature of the earth's surface. A little extension of land in one direction, a few streams and ponds of fresh water replacing land in another, a gradual change, amounting to 1000 feet of depression of the land—such events would modify the whole system. It seems worth while to remind the reader in this place how entirely climate depends on physical geography, and how completely a change in the relative position of land and water involves a change of climate; because it is only thus that he will be able to understand the essential and important difference that exists between the several islands of the Channel group, and between any of these and any part of England or France.

Sanitary Condition.

The principal published accounts of the sanitary condition of the Channel Islands, so far as it depends on climate, are, first, a chapter by Dr. Scholefield on Jersey, published by Mr. Inglis in 1835; second, the work of Dr. Hooper, also on Jersey, published in 1857; and third, the notices by Dr. Hoskins on Guernsey, published originally in 1852. The two former are elaborate and detailed, but were founded on very imperfect observations. The latter is based on much more accurate records, and communicates the long experience of a physician of reputation and large practice, residing on the spot.

The following abstract may be sufficient in the present state of our knowledge, to give an idea of the sanitary condition of Jersey. It does not seem that any diseases are peculiar to that island, although certain febrile attacks, and a peculiar form of dyspepsia, called "nervous dyspepsia," are more common than elsewhere, especially among the females of the peasant class. Rheumatism, however, is exceedingly common; the chronic form affecting a large proportion of the older people, and attacking visitors who reside, as well as natives. Liver diseases are also very frequent. Hypochondria is a common result of these affections.

Under the influence of the mild and soft climate of the island, chronic diseases generally proceed slowly, and where there is a possibility of return to health, the efforts of nature are greatly aided, and in no way interfered with by the weather. In incipient pulmonary and bronchial affections, there are for the same reason great advantages offered for a time; but in these cases continued change is generally advantageous.

In Guernsey, according to the experience of Dr. Hoskins,* "the type of fever most frequently requiring treatment is the

* "Home Resorts for Invalids;" a paper read before the British Meteorological Society, May 25, 1852.

remittent, sometimes complicated with sub-acute inflammation of various tissues, almost invariably the mucous. These fevers are most common in the low parts of the town, or along the coasts, when a wet summer has been followed by a warm autumn. When neglected, they assume a typhoid character. General typhus, in an epidemic form, rarely occurs. Agues, formerly prevalent here, disappeared with drainage and embankment.

Scarlatina, measles, and other diseases incident to childhood, are generally mild; except, indeed, scarlatina during cold winters and springs, when it sometimes assumes a congestive form from the commencement, and terminates fatally.

Pleurisy, pneumonia, peritonitis, and other acute inflammations of serous tissues, are rare; being, as it were, replaced by bronchitis and muco-enteritis. The former occurs in winter and spring, the latter in autumn.

Acute rheumatism is very rare in Guernsey, while the chronic form here, as in the other islands, is common among the peasantry. Pulmonary consumption does not exceed the average in other places, and the same may be said of other forms of scrofulous disease. Asthma is not only very rare, but even the predisposition to this disease in young persons is checked, and lost in the island.

Dyspepsia (called "biliousness") is among the predominant maladies in the island; and the cause of this is to be found in the diet of the people, rather than the climate. Diseases involving the deposit of phosphates and carbonates of lime are very rare.

On the whole, it seems to result from general experience that the climate of Guernsey is particularly favourable to aged persons and young children, and as a transition in the case of persons desiring to accustom themselves to the much more severe climate of England.

The climate of Guernsey is locally regarded as more bracing, and less relaxing than that of Jersey; while Sark and Alderney

are looked on as still more bracing than Guernsey. The exact value of the popular expressions, "bracing and relaxing air," it would not be easy to express, as they involve more of personal feeling than of facts that can be expressed by figures, diagrams, or words. There cannot, however, be a doubt, that the change experienced in removing for a time from Guernsey to Sark, is exceedingly marked, and almost always favourable. How far a continuance in the same place for a longer time would be of advantage seems doubtful; but still the simple habits of life that prevail, the inducements to constant exercise in the open air, and the absence of a large population crowded into a small space, cannot but be favourable elements, and must produce their effect. The winds, although not always pleasant, ensure a thorough ventilation and incessant replacement of the air; so that, except in the immediate vicinity of decaying animal and vegetable matter, there can be no dangerous miasma.

As a general remark, it may safely be assumed that all the islands are admirably adapted to restore the health, and strengthen both mentally and bodily the overtaxed energies of the inhabitants of great cities. They afford a pure clear atmosphere, containing a large quantity of saline matter and iodine, and the frequent high winds ensure a constant freshness, preventing the depressing effect sometimes accompanying humidity. The extreme beauty and variety of the scenery, and the infinite variety of interest they present to intelligent persons of all classes, and of all pursuits, cannot fail to prevent the ennui that sometimes destroys the effect of a change of air and scene. For those who love wild nature, Sark, Guernsey, Alderney and Herm, and the north of Jersey, are inexhaustible. For those who prefer gentler and softer beauties, the interior of Jersey is equally rich.

END OF PART THE FIRST.

PART II

NATURAL HISTORY

GROUP OF GUERNSEY PLANTS.

(See page 164.)

The following are the names of the plants figured in the preceding Title :—

PYROLA ROTUNDIFOLIA.
OPHRYS APIFERA.
CONVOLVULUS SEPIUM.
CAREX sp.
JUNCUS sp.
SCHŒNUS sp.
GALIUM PALUSTRE.
ANAGALLIS TENELLA.
POA sp.
ARUM MACULATUM.

Of these, the PYROLA is the principal flower. The ANAGALLIS is the little trailing plant, with pairs of roundish leaves, on the one side, and the ARUM is on the other side.

CHAPTER VIII.

THE VEGETABLE PRODUCTIONS NATURAL TO THE CHANNEL ISLANDS.

In a work like the present, where an attempt is made to combine a readable account of natural objects with scientific accuracy and technical detail, it is not very easy to treat the subject of Natural History. There is danger, on the one hand, of alarming the general reader by long catalogues of names, few of which have to him any definite meaning whatever; and, on the other hand, a vague account of the peculiarities that may be deserving of notice communicates no information of the smallest value to the student of Natural History. It will be endeavoured in this and the following chapters to avoid both mere technicalities and mere generalities. Catalogues, as complete as they can be obtained, of all known species will be printed in small type for the naturalist, with a view to place on record a large mass of important information, laboriously acquired, but hitherto comparatively useless, because unpublished.* In this way the facts will be given; and such remarks and conclusions as may seem likely to interest from their importance, or novelty, will be added to each list; in the hope of giving interest to the subject to those who do not study nature with a technical eye. Such

* Any corrections of or additions to these lists, communicated to the Authors through the Publishers, will be available for publication in a future edition.

an arrangement seems the more necessary here, because the object of the present work is not to give a limited and one-sided view of the Channel Islands, but rather to point out how well adapted they are to excite interest among all visitors, including those who love the picturesque and beautiful without having time to devote to detail, as well as those who limit their observations and studies to some one of the infinitely varied departments, all inviting careful study.

With regard to botany, a foundation of accurate knowledge was laid in the "Primitiæ Floræ Sarnicæ," published by Professor Babington, in 1839. This work gives a list, nearly complete, of the flowering plants and ferns. But concerning several important classes, such as mosses, lichens, fungi and sea-weeds, there is little information; and of the Diatomaceæ no mention is made. No lists have been published since; although the number of recognised species, even of the flowering plants and ferns, has been considerably increased by subsequent research.

To facilitate reference and reduce the lists into manageable order, it has been thought well to distribute the various plants and animals into groups, and place the names of genera and species in alphabetical order. In the various catalogues, the species mentioned include all that can properly be regarded as naturalised,—those that are certainly not indigenous being indicated by a little dagger (†) placed before the name. The islands in which the various species have been found are indicated by vowel letters, of which the meaning is as follows:—

a. Alderney.	*i.* Jersey.
e. Guernsey.	*o.* Sark.
u. Herm, Jethou, Crevichon.	

The absence of a vowel letter indicates that the species is not limited to any one or other of the islands, but is common to all. The common English names are generally given in brackets when these names are not mere translations of the technical name.

Trees and Shrubs.

† ABIES excelsa (fir).
ACER campestris, *e. i.* (maple).
† pseudo-platanus, *e. i.* (plane).
† ÆSCULUS hippo castanum, *e. i.* (horse-chestnut).
ALNUS glutinosa, *e. i.* (alder).
† BERBERIS vulgaris, (berberry).
BETULA alba, *e. i.* (birch).
CARPINUS betulus, *e. i* (hornbeam).
† CASTANEA vesca, *e. i.* (Spanish chesnut).
† vulgaris, *e. i.*
CORNUS sanguinea, *i.* (dogwood).
CORYLUS avellanus, *e. i.* (hazel)..
CRATÆGUS oxyacantha (hawthorn).
; DAPHNE laurcola (laurel)
FAGUS sylvatica, *e.* (beech).
FRAXINUS excelsior (ash) *e. i. o.*
ILEX aquifolium, *e. i.* (holly).
LIGUSTRUM vulgare, (privet), *e. i. o.*
MESPILUS germanica, (medlar), *e. i.*
† PINUS sylvestris, *e. i.* (Scotch fir).
† pinaster, *e. i.*
POPULUS alba, *e. i.* (poplar).
tremula, *e. i.* (aspen).
PRUNUS cerasus, *e. i.* (cherry).
insititia (bullace), *e. i.*
spinosa (sloe).
PYRUS aucupana, *e. i.* (mountain ash).
communis (pear).
malus (apple), *e.*
† QUERCUS ilex (evergreen oak).
robur (oak).
ROSA (rose).
canina (dogrose).
β sarmentacea, *a. e. i.*
γ surculosa, *e.*
micrantha, *o.*
rubiginosa, *i.*
spinosissima.
RUBUS argenteus, *a.*
fruticosus, *e. i. u.*
kochleii, *e. i.*
rhamnifolius, *e. o.*
villicaulis, *u.*
RUSCUS aculeatus (butcher's broom), *a. e. i. u.*
SALIX
alba, *e. i.* (willow).
aquatica, *e. i.*
caprea, *i.*
fragilis, *a.*
fusca, *e. i.*
β ascendens, *e.*
oleifolia, *e. o.*
stipularis, *a.*
viminalis, *i.*
SAMBUCUS ebulus, *e. i.* (ground elder).
nigra (common elder).
SAROTHAMNUS scoparius (broom).
† TAMARIX gallica, *e. i.* (tamarisk).
† TILIA europea (lime).
ULEX europeus (furze).
nanus, *a. e. i.*
ULMUS campestris, *e. i.* (elm).
montana.
suberosa.
opulus, *i.*
VIBURNUM lantana, *i.*
opulus, *i.*

Of the trees in this catalogue, the most characteristic species are, perhaps, the evergreen oak (*quercus ilex*), and the elm (*ulmus sp.*). The former is seen, especially in Guernsey, widely spread over the country. It is generally very well grown, and greatly serves to do away with the dreary, bleak aspect of winter and early spring, by its bright green foliage. There are, however, no woods properly so called, and few plantations, although the latter are increasing. A strong prejudice exists in the minds of the farmers of both islands against all kinds of ornamental wood, partly from fear of birds and partly from a notion that the presence of trees is unfavourable to the work of the farmer.

The trees are nowhere lofty, but they are not often disfigured by the steady sweep of currents of air, as is commonly seen by the sea side. They generally retain their leaves much later in the year than in England, but do not burst into leaf in the spring much earlier.

Besides the ilex and elm, the beech grows well, and is very common. Various kinds of firs and pines are seen, but they are not indigenous. The lime succeeds well as an ornamental tree, and gives much shelter, but is rather late in leafing. The white poplar grows rapidly and makes fine trees in a short time. The willow is indigenous, and is much used, its young shoots being employed to tie up the fruit trees to the espaliers. A peculiar dwarf variety covers the fields in some parts of Guernsey. None of the wood grown in any of the islands can be considered as furnishing useful timber; nor is it probable that, within the historic period, there could have been any large stock. Everything, however, seems to show that in former times, at least in Guernsey and Jersey, there were large tracts of forest land, that have since been submerged. The timber thus grown was larger than could now be found.

Alderney and Sark are very badly provided with trees; and in Herm and Jethou there are hardly any.

The common furze (*ulex europæus*) is one of the most abundant and prominent shrubs on the hill sides in all parts of all the islands, where not destroyed by cultivation. It is generally accompanied by the bramble (*rubus sp.*). The intense yellow of the blossom of the furze and the long shoots of the bramble produce a marked effect on the landscape, especially as the former continues in flower all the year. There is heather in some abundance, both in Jersey and Guernsey, but it is choked and concealed by the larger growth of the gorse. Both in Herm and Sark the hedges are loaded during autumn with the blackberry; and in all the islands this fruit attains a size and flavour which may be considered remarkable.

The sloe and hawthorn are covered with their delicate white blossom in the early spring, and add much to the beauty of the hedges at that season.

The small shrub called 'butcher's broom' (*ruscus aculeatus*) is found very abundantly in the hedges and on the hill sides in all the islands, except Sark. It is always beautiful, owing to the bright metallic green of its hard prickly leaves; but in autumn and winter, when covered with large scarlet berries, it is yet more remarkable.

Various kinds of wild roses are found; and it is curious, that while only one species is common to all the islands, each island has one species or variety peculiar to itself. The sweet briar is found in Jersey.

The tamarisk (*tamarix gallica*) has been introduced into Jersey and Guernsey, and grows freely by the sea side, especially near sandy bays.

Flowering Plants,

(Excluding Sedges and Grasses).

ACHILLEA millefolium (yarrow).
ÆGOPODIUM podagraria, (goatweed) *e. i.*.
ÆTHUSA cynapium, (fool's parsley) *e. i.*
AGRAPHIS nutans (wild hyacinth).
AGRIMONIA eupatoria, (agrimony) *e. i.*
odorata, *i.*
AJUGA
reptans, (bugle) *e. i.*
ALCHEMILLA arvensis, (ladies' mantle) *a. e. i. u.*
vulgaris, *i.*
ALISMA plantago, *e. i.*
ranunculoides, *e. i.*
ALLIARIA officinalis, (Jack in the hedge) *a. e. i.*
ALLIUM ampeloprasum, *e.*
Babingtoni, *e.*
sphærocephalum, *i.*
triquetrum, *e. i.*
ALLIUM vineale, *e. i.*
ALTHÆA officinalis, (marsh-mallow) *i.*
ANAGALLIS arvensis (shepherd's weather glass).
β cœrulea, *e. i.*
tenella, *a. e. i. o.*
ANCHUSA (alkanet), sempervirens, *i.*
ANETHUM graveolens, *i.*
ANGELICA sylvestris, *i*
ANTHEMIS (camomile)
arvensis, *a. e. i. o.*
cotula, *e. i. o.*
nobilis.
ANTHRISCUS
sylvestris, (keck) *i.*
vulgaris, *a. e. i.*
ANTHYLLIS vulneraria, (wound-wort) *a. e. i. o.*
ANTIRRHINUM (snap-dragon) majus, *e. i.*
orontium, *e. i. o.*
APIUM graveolens, *e. i.*
AQUILEGIA vulgaris, (columbine) *e.*
ARABIS hirsuta, *a. e.*
ARCTIUM
lappa (bur)
β. bardana.
ARENARIA
marina (sandwort).
peploides, *e. i. o. u.*
rubra, *e. i.*
serpyllifolia, *a. e. i.*
tenuifolia, *i.*
trinervia, *i.*
ARMERIA (thrift)
maritima.
plantaginea, *i.*
ARTEMISIA (wormwood)
absinthium, *a. e. i. o.*
maritima, *i.*
vulgaris, *e. i.*
ARTHROLOBIUM
ebracteatum, *a. e,*
ARUM maculatum, (cuckoo pint) *e. i.*
ASPARAGUS officinalis, *e. i.*

ASPERULA odorata, (woodruffe) *i.*
ASTER tripolium, *e. i.*
ATRIPLEX angustifolia, (orach) *a. e. i. o.*
deltoidea, *e. i. o.*
erecta, *e. u.*
laciniata, *e. i. o. u.*
littoralis, *e. i.*
marina, *e. i.*
patula.
rosea, *e. i. u.*
ATROPA belladonna, *e. i.* (deadly nightshade)
BALLOTA nigra, *a. e. i.*
BARBAREA vulgaris, (yellow rocket) *e. i.*
præcox, *i.*
BARTSIA viscosa.
BELLIS perennis (daisy).
BETA (beet) maritima.
BIDENS tripartita, *i.*
cernua, *i.*
† BORAGO officinalis, (borage) *a. e. i.*
BRASSICA (cabbage)
campestris, *i.*
napus, *a. i.*
nigra, *e. i. u.*
oleracea, *e. i.*
rapa, *i.*
BRYONIA
dioica, (bryony) *i.*
BUNIUM flexuosum, (earthnut) *e. i.*
BUPLEURUM
aristatum, *a. e. i.*
tenuissimum, *e.*
CAKILE
maritima (sea rocket).
CALLITRICHE pedunculata (starwort)—
α vera, *e. i.*
β sessilis, *i.*
platycarpa, *i.*
verna.
CALLUNA (ling), vulgaris *a. e. i. o.*
CANNABIS sativa, *i.* (hemp).
CAPSELLA bursa pastoris (shepherd's purse).
CARDAMINE (lady smock)
hirsuta, *e. i.*
pratensis, *e. i.*
CARDUUS (thistle)
acanthoides, *i.*
acaulis, *i.*
CARDUUS arvensis.
lanceolatus.
nutans.
palustris, *e. i. o. u.*
pratensis, *i.*
tenuiflorus.
CARLINA vulgaris.
CARUM (caraway)
verticillatum, *i.*
CAUCALIS daucoides, *i.*
CENTAUREA calcitrapa, *i.*
cyanus (blue bottle), *a. e. i.*
Isnardi, *e.*
nigra, *e. i. o.*
β radiata, *e. i.*
scabiosa, *a. i.*
solstitialis, *i.*
CENTRANTHUS ruber, *e. i.*
CENTUNCULUS minimus, (chaffweed) *e. i.*
CERASTIUM atrovirens—
α verum.
β pedunculatum, *a. i.*
glomeratum, *e. i. o. u.*
semidecandrum, *a. e. i.*
tetrandrum, *e.*
triviale.
CERATOPHYLLUM
demersum, *e. i.*
CHÆROPHYLLUM
temulum (chervil), *a. e. i.*
† CHEIRANTHUS
cheiri (stock), *e. i.*
CHELIDONIUM (celandine) majus, *e. i.*
CHENOPODIUM album.
bonus henricus (halgood), *i.*
ficifolium, *e.*
maritimum, *i.*
murale.
olidum, *e. i. u.*
polyspermum, *e. i. o.*
rubrum, *i.*
CHRYSANTHEMUM leucanthemum, *e. i. o. u.*
segetum (corn marigold).
CHRYSOSPLENIUM
alternifolium, *i.*
oppositifolium, *e. i.*
CICENDIA candothi, *e.*
filiformis, *e. i.*
pusilla, *e.*
† CICHORIUM intybus (chicory), *e.*
CICUTA virosa, *i.*? (water hemlock).
CIRCÆA lutetiana, (enchanter's nightshade) *e. i.*
CLADIUM mariscus, *i.*
COCHLEARIA anglica, *i.*
† armoracia (horseradish), *a. e. i.*
danica, *a. e. i. o.*
officinalis, *i.* (scurvy grass).
CONIUM
maculatum (hemlock).
CONVOLVULUS arvensis (lesser bindweed).
β hirtus, *i.*
sepium (greater bindweed), *e. i.*
soldanella, *a. e. i. u.*
† CORIANDRUM sativum, (coriander), *i.*
COTYLEDON umbilicus (navelwort).
CRAMBE maritima, *e. i.*
CREPIS biennis, *a. i.*
setosa, *i.*
virens.
CRITHMUM maritimum.
CUCUBALIS baccifer, *i.*
CUSCUTA epithymum (dodder).
CYNOGLOSSUM officinale, (hound's tongue) *a. e. i. u.*
† DATURA stramonium, *i.* (thornapple).
DAUCUS carota (carrot).
maritimus.
DELPHINIUM consolida (larkspur), *i.*
DIANTHUS prolifer, *i.*
DIGITALIS purpurea (foxglove).
DIOTIS maritima, *a. i.*
DIPLOTAXIS muralis, *e. i.*
tenuifolia, *a. e.*
DIPSACUS sylvestris, (teasel) *e. i. o.*
DRABA verna, (whitlow grass) *e. i.*
DROSERA rotundifolia (sundew), *i.*
ECHIUM violaceum, *i.*
vulgare (ox tongue).

ELATINE hexandra.
EPILOBIUM
angustifolium, *i.*
hirsutum, *e. i.*
montanum, (willow herb) *e. i.*
γ lanceolatum, *i.*
palustre, *e. i.*
parviflorum, *e. i.*
tetragonum, *a. e. i. o.*
EPIPACTIS palustris, (bog orchis) *e. i.*
ERICA (heath) cinerea.
tetralix, *i.*
ERIGERON acris, *a. i.*
canadensis, *i.*
ERODIUM cicutarium (stork's bill).
maritimum, *a. e. i. u.*
moschatum.
ERUCASTRUM incanum, *e.*
α verum, *a. i.*
β hirtum, *a.*
ERYNGIUM
campestre, *i.* ?
maritimum.
ERYTHRÆA centaurium.
latifolia, *a. e. i.*
linarifolia, *e. i.*
ramosissima, *e. i.*
EUPATORIUM
cannabinum (hemp-agrimony), *e. i.*
EUPHORBIA (spurge)
amygdaloides, *e. i. o. u.*
esula, *i.*
exigua, *e. i.*
helioscopia.
lathyris, *i.*
paralias.
peplis.
peplus.
portlandica.
EUPHRASIA
odontites, *a. e. i.*
officinalis.
FAGOPYRUM esculentum, (buck wheat) *e. i.*
FEDIA auricula, *i.*
carinata, *a. e, i.*
dentata, *e. i.*
olitoria, (corn salad) *e. i.*
FILAGO germanica.
minima, *a. i.*
FŒNICULUM officinale, (fennel) *a. e. i.*
FRAGARIA vesca, (strawberry) *e. i.*
FRANKENIA lævis, (sea heath) *e. i.*
FUMARIA capreolata, (fumitory) *a. e. i. o.*
officinalis, *a. e, i. u.*
† GALANTHUS nivalis, (snowdrop) *e. i.*
GALEOBDOLON luteum, (weazel-snout) *i.*
GALEOPSIS tetrahit, *e. i.*
versicolor, *i.*
GALIUM aparine.
erectum, *i.*
mollugo.
palustre, *a. e. i.*
saxatile, *e. i.*
uliginosum, *e.*
verum.
GERANIUM
columbinum, *e. i.*
dissectum.
molle.
pusillum, *i.*
pyrenaicum, *i.*
robertianum, *a. e. i.*
rotundifolium, *e. i.*
striatum, *i.*
GEUM urbanum (avens), *e. i.*
GLAUCIUM (horned poppy) luteum, *a. e. i. u.*
GLAUX maritima, *e. i.*
GNAPHALIUM
luteo album, *e. i.*
sylvaticum, *i.*
uliginosum, *e. i. o.*
HALIMUS
portulacoides, *a. e. i.*
HEDERA helix (ivy).
HELIANTHEMUM
guttatum, *a. i.*
HELMINTHIA echioides, *e. i.*
HELOSCIADIUM
inundatum, *e. i. o.*
nodiflorum, *a. e. i. o.*
repens, *a. e. i. o.*
HERACLEUM sphondylium (hogweed).
HERNIARIA ciliata, *e.*
glabra—
α vera, *a. e. i.*
β subciliata, *i.*
HIERACIUM
lævigatum, *e. i.*
pilosella (mouse-ear).
HIERACIUM pilosella—
γ peleterianum.
umbellatum, *e. i.*?
HOLOSTEUM
umbellatum, *i.*
HUMULUS
lupulus (hop), *e. i.*
HUTCHINSIA petræa, *i.*
HYDROCOTYLE vulgaris.
HYOSCYAMUS niger (henbane), *a. e. i. u.*
HYPERICUM androsœmum (man's blood), *e. i.*
elodes, *a. e. i.*
humifusum.
linarifolium, *e. i.*
montanum, *i.*
perforatum, (St. John's wort), *e. i.*
pulchrum.
tetrapterum
HYPOCHŒRIS glabra—
α vera.
β balbisii, *a. e. i.*
radicata.
ILLECEBRUM
verticillatum, *i.*
INULA conyza (shepherd's spikenard), *e. o.*
crithmoides, *a. e. i. o.*
helenium, *i.*
IRIS fœtidissima (gleadowes), *e. i. o. u.*
pseudacorus, *a. e. i. o.*
ISNARDIA palustris, *i.*
JASIONE montana.
JUNCUS
acutiflorus, *e. i. o. u.*
acutus, *a. e. i. u.*
bufonius.
capitatus.
cœnosus, *e. i.*
compressus, *i.*
conglomeratus, *a. e. i. o.*
effusus, *e. i. o.*
glaucus, *a. e. i.*
lampocarpus, *a. e. i.*
maritimus, *a. e. i.*
obtusiflorus, *i.*
uliginosus, *a. e. i. o.*
KNAUTIA arvensis, *e. i.*
† KONIGA maritima, *i.*
LACTUCA virosa, *i.*
LAMIUM
album (dead nettle) *i.*
amplexicaule, *a. e. i.*

LAMIUM incisum, *a. e. i.*
purpureum, *e. i. u.*
β incisum, *e.*
LAPSANA communis (nipplewort), *e.i.o.u.*
LATHYRUS aphaca, *i.*
pratensis, *e. i.*
LAVATERA arborea.
LEMNA (duckweed)
gibba, *i.*
minor, *a. e. i.*
polyrrhiza, *e.*
trisulca, *i.*
LEONTODON
hispidum, *a. e. i. o.*
palustris, *e.*
LEONURUS cardiaca (motherwort), *e. i.*
LEPIDIUM draba, *e.*
latifolium, *e. i.* ?
ruderale, *e.*
Smithii, *e. i. u.*
LINARIA cymbalaria, *i.*
elatine, *e. i. o. u.*
maritima, *e.*
minor, *i.*
pelisseriana, *i.*
repens, *i.*
spuria, *e. i.*
vulgaris, *e. i. ρ. u.*
LINUM (flax)
angustifolium.
catharticum, *a. e. i. u.*
LISTERA ovata, *e. i.* (twablades).
LITHOSPERMUM arvense, (gromwell), *i.*
officinale, *e.*
LITTORELLA lacustris, *i.*
LONICERA periclimenum.
LOTUS angustifolius—
α linnœanus.
β scringianus, *i.*
corniculatus.
hispidus, *i.*
major.
LUZULA
campestris, *a. e. i. o.*
congesta, *e.*
forsteri, *e. i.*
sylvatica, *e.*
LYCHNIS
dioica (campion).
α diurna.
β vespertina, *a. e. i.*
flos-cuculi (ragged robin), *a. e. i.*
LYCHNIS githago (gith. corn cockle), *a.e.i.o.*
LYCOPSIS arvensis (gipsy-wort).
LYCOPUS europæus, *e. i.*
exaltatus, *i.*
LYSIMACHIA
nummularia, *i.*
LYTHRUM
hyssopifolium, *i.*
salicaria, *e. i.*
MALVA moschata (musk mallow), *e. i. o.*
rotundifolia.
sylvestris (horehound).
MANUBIUM
vulgare, *a. e. i. o.*
var. apulum.
MATRICARIA
chamomilla, *e. i. u.*
MATTHIOLA
sinuata (sea stock), *e. i*
MEDICAGO denticulata—
α vulgaris, *e. i.*
β brevispina, *a.*
lupulina, *a. e. i. u.*
maculata, *a. e. i. u.*
minima, *i.*
MELILOTUS leucantha, *i.*
officinalis.
MELISSA acinos, *i.*
calamintha, *e. u.*
nepeta, *u.*
officinalis, *e. i.*
MENTHA (mint) aquatica.
arvensis, *e. i.*
pulegium, *e. i.* (penny royal).
rotundifolia, *e. i.*
sylvestris, *i.*
MENYANTHES trifoliata, (bog bean), *e. i.*
MERCURIALIS annua.
β ambigua, *a. i.*
MŒNCHIA erecta, *e. i. u.*
MONTIA
fontana (water blinks)
α minor, *i.*
β major, *i.*
MYOSOTIS
arvensis, *a. e. i. o.*
cæspitosa, *e. i.*
collina, *i. o.*
hispida, *e.*
palustris (forget-me-not), *e. i.*
repens, *a. e. i. o.*
MYOSOTIS sylvatica, *i.*
versicolor, *e. i.*
MYOSURUS minimus, *e. i.*
MYRIOPHYLLUM
alterniflorum, *e.*
spicatum, *i.*
verticillatum, *i.*
NARCISSUS pseudo narcissus, *e.i.* (daffodil).
† NARDOSMIA
fragrans, *e. i.*
NASTURTIUM officinale, (watercress), *a.e. i. o.*
sylvestre, *e.*
terrestre, *i.*
NEPETA
cataria, *i.* (cat-mint).
glechoma (ground ivy).
ŒNANTHE
crocata, *a. e. i. o.*
fistulosa, *i.*
phellandrium, *i.*
pimpinelloides, *e. i.*
ŒNOTHERA biennis, *i.*
ONOBRYCHIS sativa, *i.*
ONONIS arvensis, *a. e. i.* (cammock).
reclinata, *a. e.*
ONOPORDUM acanthium, *i.*
OPHRYS apifera (bee orchis), *e.*
OPORINIA
autumnalis, *a. e. i. o.*
ORCHIS latifolia, *e. i.*
laxiflora, *e. i.*
maculata, *e. i.*
mascula, *e. i.*
morio, *i.*
ORIGANUM vulgare, *e. i.* (marjoram).
ORNITHOPUS perpusillus.
OROBRANCHE (broomrape)
arenaria, *i.*
barbata, *e.*
cærulea, *a. e. i.*
major, *a. i.*
minor, *a. e. i. o.*
OXALIS acetosella (wood sorrel), *i.*
corniculata, *e. i.*
PAPAVER argemone, *e. i.*
dubium, *e. i.*
hybridum, *a. e. i.*
rheas, *a. e. i. u.*
PARIETARIA officinalis (pellitory of the wall), *e. i. u.*

PASTINACA
sativa (parsnip), *a.e.i.o.*
PEDICULARIS palustris (lousewort), *e. i.*
sylvatica, *e. i. o.*
PEPLIS portula, *e. i.*
PETROSELINUM
sativum, *a. e. i. o.*
PEUCEDANUM officinale (sulphurwort), *i.*
† PHYSALIS alkekengi, *i.*
PICRIS hieracioides, *i.*
PIMPINELLA
saxifraga, *e. i.*
PINGUICULA (butterwort)
lusitanica, *i.*
PLANTAGO
coronopus.
lanceolata
α vera.
β altissima, *a.e.i.o.*
γ sphœrostachya, *a. u.*
major.
maritima, *e. i. o.*
media, *e. i.*
POLYCARPON
tetraphyllum.
POLYGALA vulgaris (milkwort), *e. i. o. u.*
β oxypetra.
POLYGONUM
amphibium, *a. e. i.*
β terrestre, *i.*
aviculare (knotgrass)—
β erectum, *i. o.*
convolvulus.
hydropiper (water-pepper), *e. i.*
lapathifolium, *e. i.*
laxum, *a. e. i.*
minus, *i.*
maritimum, *e. i. u.*
persicaria, *e. i. u.*
raii, *e. i. o. u.*
POTAMOGETON (pondweed) crispus, *e. i.*
natans, *i.*
oblongus, *i.*
pectinatus, *i.*
plantagineus, *e. i.*
POTENTILLA
anserina, *a. e. i.*
argentea, *i.*
cornarum, *e.*
fragariastrum, *e. i.*
hirta, *i.*
POTENTILLA reptans,
tormentilla—
β nemoralis. *a. i.*
POTERIUM muricatum, *i.*
sanguis orba (burnet), *e. i.*
PRIMULA veris.
α officinalis, *i.*
β acaulis, *e. i. o. u.*
PRUNELLA
vulgaris (self heal).
PULICARIA dysentorica.
vulgaris (small fleabane), *e. i.*
PYRETHRUM
inodorum, *a. e. i.*
β maritimum, *e. i.*
parthenium, *e. i. o.*
PYROLA rotundifolia, *e.*
RADIOLA
millegrana, *e. i. o.*
RANUNCULUS (crowfoot)
acris (kingcup).
aquatilis, *e. i.*
arvensis, *i.*
auricomus, *i.*
bulbosus, *a. e. i.*
ficaria (butter-cup), *e. i.*
flammula, *e. i. o.*
hederaceus, *a. e. i. o.*
hirsutus, *e. i.*
lingua (spear-wort), *a. e. i.*
ophioglossifolius, *i.*
parviflorus, *e. i.*
repens, *e. i. o. u.*
sceleratus, *e. i.*
RAPHANUS
maritimus, *a. e. i. u.*
raphanistrum, *e. i.*
† sativus, *i.*
RESEDA lutea, *a. i.*
luteola.
RHINANTHUS crista-galli, (rattle) *e. i.*
RUBIA peregrina, *a.e.i.o.*
RUMEX
acetosa (sorrel).
acetosella.
conglomeratus, *e. i. o.*
crispus.
hydrolapathum (water-dock), *e. i.*
maritimus, *i.*
obtusifolius.
pulcher.
RUMEX sanguineus—
α genuinus, *e. i.*
β viridis, *i.*
RUPPIA maritima, *e. i.*
SAGINA apetala—
α cilata, *e. i.*
β glabra.
maritima, *a. e. i. o.*
procumbens (pearlwort).
SALICORNIA herbacea, *e. i.*
SALSOLA
kali (glasswort).
SALVIA clandestina, *e. i.*
verbenaca, *a. e. i.*
SAMOLUS valerandi.
SANGUISORBA officinalis, (great burnet), *i.*
SAPONARIA officinalis, *i.* (soapwort).
SAXIFRAGA
tridactylites, *e. i.*
SCABIOSA columbaria, *e. i.*
succisa (devilsbit).
SCANDIX pecten-veneris, (awlwort), *e. i.*
SCHOBERIA maritima, *e. i.*
SCILLA autumnalis, *a. e. i. o.*
SCLERANTHUS annuus
SCROPHULARIA
aquatica (figwort), *e. i. o.*
nodosa, *e. i.*
scorodonia, *e. i. u.*
SCUTELLARIA galericulata, *e. i.* (scullcap).
minor, *e. i.*
SEDUM acre, *a. e. i. u.*
album, *e.*
anglicum.
† Forsterianum, *e.*
† reflexum, *i.*
† rupestre, *i.*
† SEMPERVIVUM
tectorum, *e. i.* (house-leek).
SENEBIERA
coronopus, *a. e. i. o.*
didyma, *e. i.*
SENECIO aquaticus, *i.* ?
erraticus, *e. i.*
jacobea (ragwort).
paludosus, *e.*
sylvaticus.
vulgaris (groundsel)—
β radiatus, *e. i.*

SERRATULA tinctoria, (saw-wort) *i.*
SHERARDIA arvensis.
SIBTHORPIA europœa, *e.i.*
SILENE (catch-fly) anglica.
conica, *e. i.*
inflata, (bladder campion) *e.i.*
maritima.
noctiflora, *e. i.*
nutans, *e. i. u.*
quinquevulnera, *e. i.*
SILYBUM marianum, *e. i.*
SINAPIS (mustard)
alba, *a. e. i. u.*
arvensis—
α vera.
β retro-hirsuta.
cheiranthus, *a. e. i.*
SISON amomum, *i.*
SISYMBRIUM irio, *i.*
officinale.
thalianum, *e. i.*
SIUM angustifolium, *a.e.i.*
latifolium, *i.*
SMYRNIUM olusatrum, (Alexanders) *e. i. o.*
SOLANUM dulcamara (woody nightshade).
β tomentosum.
nigrum, *e. i. o. u.*
SOLIDAGO virgaurea, *i.* (golden rod).
SONCHUS arvensis (sow thistle), *a.e.i.o.*
asper, *e. i.*
oleraceus.
SPARGANIUM
ramosum, *e. i.*
simplex. *i.*
SPERGULA (spurrey)
arvensis—
β vulgaris.
nodosa, *a. e. i.*
subulata.
SPIRANTHES autumnalis (ladies' traces), *i.*
æstivalis.
SPIRÆA ulmaria, *i.*
STACHYS
arvensis (woundwort).
betonica, *e. i.*
palustris, *a. e. i. o.*
β ambigua, *e. i.*
sylvatica, *e. i. o.*
STATICE limonium, *e. i.* ? (sea lavender).
STATICE spathulata, *e.i.o.*
STELLARIA glauca, *i.*
graminea, *e. i.*
holostea (stitchwort), *i.*
media.
nemorum, *i.*
uliginosa, *e. i.*
SYMPHYTUM officinale, (comfrey, *e. i.*
TAMUS communis (black bryony), *i.*
TANACETUM
vulgare (tansy), *e. i.*
TARAXACUM officinale (dandelion)—
α genuinum.
β lævigatum, *e. i.*
γ leptocephalum, *i.*
TRESDALIA
nudicaulis, *e. i.*
TEUCRIUM chamœdrys, *i.*
scordium, *i.*
scorodonia.
THESIUM
linophyllum, *a. i.*
THLASPI arvense, *i.*
THRINCIA hirta.
THYMUS serpillum.
TILLÆA muscosa, *e. i.*
TORILIS
anthriscus, *a. e. i. o.*
nodosa, *a. e. i.*
TRAGOPOGON
porrifolius, *i.*
pratensis (goats'-beard), *i.*
TRICHONEMA columnæ.
TRIFOLIUM
arvense, *a. e. i. o.*
filiforme—
α major.
β minimum, *a.e.i.o.*
fragiferum, *e. i.*
glomeratum, *e. i.*
† incarnatum, *i.*
ochroleucum, *i.*
ornithopodioides, *i. o.* (bird's foot-trefoil).
pratense.
procumbens, *a. e. i. o.*
β campestre, *a. o.*
repens.
scabrum, *a. e. i. o.*
striatum, *a. e. i. o.*
strictum, *i.*
subterraneum, *e. i. o.*
suffocatum, *e.*
TRIGLOCHIN
maritimum, *e. i.*
palustre, *e. i.*
TUSSILAGO farfara, *e. i.*
TYPHA angustifolia (bulrush), *e.*
latifolia, *e. i.*
URTICA (nettle) dioica.
urens.
UTRICULARIA (bladderwort) vulgaris, *i.*
VALERIANA officinalis, *i.* (valerian).
VERBASCUM blattaria, *e.i.*
nigrum—
α verum, *e. i. o.*
β tomentosum, *a.*
thapsus (mullein) *e.i.o.*
virgatum, *e. i.*
VERBENA officinalis, *a. e. i.*
VERONICA agrestis.
anagallis, *a. e. i.*
arvensis.
beccabunga (brooklime), *a. e. i. o.*
Buxbaumii, *e. i.*
chamœdris (germander-speedwell), *e. i. o. u.*
hederifolia, *a. e. i.*
officinalis.
polita.
scutellata, *i.*
serpyllifolia, *e. i. o.*
VICIA (vetch).
angustifolia, *i. o.*
cracca, *e. i. o.*
hirsuta, *a. e. i. o.*
lathyroides, *i.*
lutea, *e.*
sativa, *a. e. i. o.*
sepium, *e.*
tetrasperma, *e. i. o.*
† VINCA major (periwinkle), *e. i.*
† minor, *i.*
VIOLA canina (dog violet), *e. i. o. u.*
γ lactea, *i.*
odorata, *e. i.*
tricolor, *e. i. o.*
β arvensis, *i. u.*
WAHLENBERGIA
hederacea. *e. i.*
ZANNICHELLIA palustris
γ pedunculata, *e. i.*
ZOSTERA marina, *e. i.*

This catalogue includes all the flowering plants (omitting the trees, shrubs, sedges and grasses) published in Professor Babington's "Primitæ Floræ Sarnicæ," with additional lists, as follows. Fifty-five species from Jersey, chiefly from Mr. Piquet, of St. Heliers. Nearly the same number are added from Guernsey—thirty-two of them by Major Smith, R.M., formerly a resident, nine by Mr. Wolsey, an exceedingly intelligent nurseryman and excellent botanist in Guernsey, and the rest by Miss Le Lievre and other island botanists. A few species are added from Alderney and Sark. On the other hand, twenty-one species of Babington's catalogue, marked as found in Jersey, are now nearly, if not quite, extinct; and a smaller, but still considerable, number appears to be dying out in Guernsey. *Frankenia laevis, aster tripolium,* and *atropa belladonna,* are said not to occur now in Jersey at all.

Both Jersey and Guernsey, but especially the latter island, must be regarded as wonderfully rich in wild flowers, both in spring and summer. Very early in January the hedges and sheltered places begin to show symptoms of change. The pretty, round, fresh leaf of the navel-wort (*cotyledon umbilicus*) is seen on every wall, and in the crevices of the rocks, and contrasts with the rich orange of the ever-flowering gorse in the hedges. The arum rises with its handsome leaf, and a number of familiar but pleasing little flowers show themselves. Soon the primrose covers every spare corner, with its delicate shade of yellow. The dog violet, the wild hyacinth, the milkwort, and the pretty germander-speedwell, vary the scene with innumerable spots of rich blue; and the daffodil and narcissus rise boldly into notice, with their more decided and massive tones of golden yellow, and rich cream white. The little species of ixia, *trichonema columnæ,* is particularly remarkable among the spring flowers. The snowdrop is rare in Guernsey, though not unknown, but it is common in Jersey. Several varieties of the buttercup, the common daisy, the ragged robin,

with its delicate pink, and the white *cardamine pratensis*, afford never-failing contrasts to the green fresh grass; and several less common species of wild flowering plants may be found by the botanist in the Grande Mare and by Cobo, in Guernsey, or in the sands and marshes of St. Ouen's, St. Clement's, and Gorey, in Jersey.* A little later, many parts of both islands, situated in low and somewhat damp localities, are converted into perfect gardens by the innumerable multitudes of orchids, among which the deep purple of *orchis laxiflora*, rare in England, is especially striking. In drier places, the handsome foxglove is beautifully contrasted with the golden yellow of the ragwort (*senecio jacobea*). Of all the June flowers, none is perhaps prettier than the *pyrola rotundifolia*, peculiar (among the islands) to Guernsey, and chiefly found in the marshes near Vazon.†

During the whole of summer there is a succession of beautiful flowers. The honeysuckle begins to shoot out its sweet scented blossom into the little bye paths, almost interrupting them in some places, and mixing strangely with the sharp spiny branches of the bramble, whose flowers are now giving way to the still green fruit. The dog rose and the other roses are also getting their red berries, and the sweet briar scents the air. Convolvulus, of various species, winds and twists its way through the foliage, sometimes showing its group of heart-shaped leaves, sometimes its white flower, like an elegant shallow cup of Etruscan pattern. The *silene maritima*, with its fragrant white blossoms, is very conspicuous on the cliffs during the summer months.

* These latter flowers have, no doubt, escaped from cultivated gardens, but they are so frequent in the neighbourhood of cultivation, and cultivation is so general, that they are now almost characteristic. The snowdrop is only doubtfully indigenous.

† This flower is represented (about two-thirds the natural size) in the engraving forming the title to this part of the work (page 162). For the beautiful drawing on wood, very happily rendered by Mr. Hart, I am indebted to Mr. P. le Lievre, whose accurate knowledge of the details of Natural History is equal to his neatness and accuracy as a draughtsman.

Autumn brings its flowers also. The picturesque little squill (*scilla autumnalis*), will be found on the high ground, some orchids (*spiranthes æstivalis* and *s. autumnalis*), with their delicate scent, and a number of more striking, if not more beautiful, kinds meet us at every turn; while, up to Christmas and into the new year, the various thrifts and other marine plants retain their flowers, and give life and animation to that otherwise dreary season.

The sea side, generally barren enough of flowering plants, is not without its rich ornamentation in these islands. The horned poppy (*glaucium luteum*), with its large blossoms of the colour of yellow ochre, contrasts well with the purple flowers of the great sea stock (*matthiola sinuata*) and the glaucous green of the *eryngium maritimum;* while amongst them appears the *convolvulus soldanella,* not the least pleasing member of the group, on the sandy commons near the shore.

Everywhere, and at all times, the common weeds grow and flourish. The bindweeds (*convolvulus arvensis* and *c. sepium*), the groundsel, and many others, rise, independent of rain or drought, sun or cloud. No month is too dreary, no day too inclement, for them; but, if troublesome to the gardener and agriculturist, they keep up an appearance of life which renders the country always cheerful. Among the most curious plants of this kind, may be mentioned the parasitic species called *cuscuta epithymum,* or dodder, which covers the furze with its curious web.

Of useful plants, the samphire (*inula crithmoides*) is common on the cliffs in Sark and the south of Guernsey, and also in Jersey. It is not much used. The house leek (*sempervivum tectorum*) covers the roofs of the thatched cottages, and is always green and pleasing. The salt-wort or glass-wort (*salsola kali*), grows freely on most of the shores. The hemp-weed or hemp-agrimony (*eupatorium cannabium*), a common plant enough, was curiously recognised some time ago by some Bushmen from

South Africa, who happened to be in Guernsey, as the material from which they obtain an intoxicating substance for smoking. The navel wort has been used for medical purposes (in epilepsy) with some success. A remarkable specimen of deadly nightshade (*atropa belladonna*), grown accidentally in a garden in the town of St. Peter's Port (Guernsey) not long ago, attained the proportions and appearance of a tree, and yielded a very large quantity of the poisonous drug (belladonna) for which the plant is sometimes cultivated.

The *arum maculatum* has long been known as capable of yielding a starch of the nature of arrow-root from the rhizome, by a treatment resembling that by which the real arrow root is obtained in the West Indies. A species of *arum*, introduced from Brazil, has been cultivated in Guernsey with success, for a similar product.

The plant *zostera marina*, is remarkable as the only flowering plant known that grows in the sea, and comports itself as one of the algæ, its long, bright green leaves often covering the shore, and being mixed indiscriminately with various kinds of sea-weeds. It is found in all the bays. The dried plant is used to some extent in the islands for the stuffing of mattrasses.

The engraving on the next page represents one of those extremely characteristic and exquisite morsels of scenery not indeed peculiar to the Channel Islands, but perhaps more striking there than elsewhere. The 'water lanes' of Guernsey have been already alluded to in the general description of that island (see *ante*, page 55). They illustrate especially the botany of the island, and belong therefore, to the present chapter. In them the artist is sure to find material for his pencil, and the naturalist will feel equal interest in the wild profusion of vegetation and the many tribes of small animals that make such places their accustomed haunt. The water found in them is always running, and the shelter afforded by the larger vegetation is very favourable for the growth of delicate and rare species.

WATER LANE,
Going down to Moulin Huet Bay, Guernsey.

Sedges, and other Pond and Marsh Plants.

CAREX arenaria.
cæspitosa, *e. i.*
distans, *e. i.*
binervis, *i.*
divulsa, *i.*
extensa, *e. i.*
flava, *a. e. i. o.*
β œderi, *i.*
hirta, *e. i.*
lævigata, *e.*
muricata, *a. e. i. o.*
ovalis, *e. i.*
pallescens, *e. i.*
panicea, *e. i.*
paniculata, *e.*
CAREX pilulifera, *e. i.*
præcox, *a. e. i.*
pulicaris.
punctata, *e. i.*
recurva, *a. e. i.*
remota, *e. i.*
riparia, *e.*
stellulata, *e. i.*
vulpina, *e. i.*
CYPERUS fuscus, *i.?*
longus, *a. e. i. o.*
ELEOCHARIS
acicularis, *e. i.*
multicaulis, *a. e. i.*
palustris, *a. e. i.*
ERIOPHORUM
angustifolium, *i.*
polystachion, *e. i.*
ISOLEPIS fluitans, *i.*
holoschœnus, *i.*
Savii.
setacea, *e. i. o.*
SCHŒNUS
nigricans, *a. e. i.*
SCIRPUS
lacustris, *i.*
maritimus, *e. i.*
pauciflorus, *i.*
pungens, *i.*
tabernæ montanæ, *e. i.*

The species of *carex* are seen by this list to be very numerous in the larger island, especially in Jersey. In Sark and Herm, on the contrary, their number is extremely limited.

Among the sedges, there is none of more interest, as there is none of greater value to the islanders, than the *cyperus longus*, which, under the local name of *han*, is largely manufactured in

Guernsey into various mats, pack-saddles, horse-collars, ropes, panniers, and other articles of daily use. It is found in all the principal islands, generally in damp meadows. The roots of this plant are elsewhere used as bitter and tonic remedies; but they are not known to be employed medicinally in the islands. The rope made from it is especially valuable for crab pots, and similar purposes in fishing, as it does not become coated by slimy vegetable growth in salt water, like ordinary rope.

Grasses.

AGROSTIS alba.
spica venti, *e. i.*
stolonifera, *e.*
vulgaris, *a. i. u.*
γ pumila, *u.*
AIRA caryophyllea.
flexuosa, *e. o.*
præcox.
ALOPECURUS agrestis, *e. i.*
geniculatus, *e. i.*
pratensis, *e. i.*
AMMOPHILA
arenaria, *a. e. i. u.*
ANTHOXANTHUM
odoratum, *a. e. i. o.*
ARRHENATHERUM
avenaceum, *a. e. i. o.*
ARUNDO epigeios, *e. i.*
AVENA fatua, *a. i.*
strigosa, *i.* ?
BRACHYPODIUM
sylvaticum.
BRIZA media, *i.*
minor, *e. i.*
BROMUS arvensis, *e. i.*
diandrus.
β. rigidus, *e. i. o.*
erectus, *i.*
maximus, *e. i.*
mollis—
α verus.
β arenarius, *e. i.*
γ racemosus, *e. i.*
δ commutatus, *i.*
secalinus, *i.*
sterilis.
CATABROSA aquatica, *i.*
CORYNEPHORUS
canescens, *i.*
CYNODON dactylon, *e.*
CYNOSURUS cristatus,
echinatus, *e. i.*
DACTYLIS glomerata, *e.*
DANTHONIA decumbens.
DIGITARIA sanguinalis, *i.*
ELYMUS arenarius, *e. i.*
FESTUCA
bromoides,
duriuscula, *e. i.*
elatior, *a. e. i.*
loliacea, *e. i.*
myuros, *a. e. i.*
ovina,
rigida, *e.*
rubra—
α vulgaris,
β sabulicola, *a.e.i.o.*
uniglumis, *a. e. i.*
GASTRIDIUM
lendigerum, *e. i.* ?
GLYCERIA aquatica, *i.* ?
Borreri, *i.*
fluitans, *a. e. i.*
HOLCUS lanatus,
mollis, *e. i.*
HORDEUM
maritimum, *e. u.*
murinum, *a. e. i. o.*
β arenarium, *i.*
KNAPPIA agrostidea, *e. i.*
KOELERIA cristata, *e. i.*
LAGURUS ovatus, *e.*
LEPTURUS incurvatus—
β filiformis, *e. i.*
LOLIUM italicum, *e.*
multiflorum, *i.*
perenne, *e.*
var. racemosum, *e.*
var. ramosum, *e.*
temulentum, *a. e. i.*
MOLINIA cœrulea, *e. i.*
PANICUS crus galli, *i.*
NARDUS stricta, *i.*
PHALARIS
arundinacea, *e. i.*
β picta, *e.*
† canariensis, *i.*
PHLEUM arenarium, *a.e.i.*
Boehmeri, *i.* ?
pratense, *e. i.*
PHRAGMITES
communis, *a. e. i. u.*
POA annua,
compressa, *i.*
nemoralis, *i.*
pratensis, *a. e. i. u.*
trivialis, *a. e. i. u.*
POLYPOGON littoralis,
monspeliensis, *e.*
SCLEROCHLOA loliacea,
maritima, *e. i.*
procumbens, *e. i.*
rigida, *i.*
SETARIA viridis, *i.*
verticillata, *i.*
SPARTINA stricta.
TRISETUM flavescens, *a. i.*
TRITICUM
junceum, *a. e. i. u.*
repens,—
γ littorale, *i.*

Owing to the moisture of the climate, and the equable temperature, the grasses grow very freely, and several species and varieties have been introduced by cultivation, in addition to those that are really indigenous. Guernsey seems especially rich in some ornamental species and varieties. It contains ten species not found elsewhere in the Channel Islands; one species only found there and in Herm, and one common only to it and Sark. Jersey has fifteen species not met with elsewhere. Herm contains a named variety of *agrostis*, not found in the other islands. There are fifteen species of grasses common to all the islands.

The *lagurus ovatus* is one of the prettiest of the island grasses. It is abundant in some parts of Guernsey, especially near Cobo and Vazon, where its graceful egg-shaped seed vessels may be gathered in abundance.

Quaking grass (*briza media* and *b. minor*), one of the ornamental grasses, is common in certain localities.

Ferns.

ADIANTUM
capillus-veneris, *a. i.*
ASPIDIUM
angulare, *a. e. i.*
ASPLENIUM adiantum-nigrum, *a. e. i.*
var. acutum, *i.*
lanceolatum, *e. i.*
var. microdon, *e.*
marinum.
ruta muraria, *e. i.*
trichomanes, *e. i.*
ATHYRIUM
filix fœmina, *e. i.*
BLECHNUM
boreale, *e. i.*
BOTRYCHIUM lunaria, *e.*
CETERACH
officinarum, *e. i.*
GYMNOGRAMMA
leptophylla, *i.*
LASTREA dilatata, *e. i.*
æmula, *e.*
filix mas, *a. e. i.*
OPHIOGLOSSUM
lusitanicum, *e.*
vulgatum, *e.*
OSMUNDA regalis, *e. i.*
POLYPODIUM
vulgare, *a. e. i.*
POLYSTICHUM
aculeatum, *a. e. i.*
PTERIS aquilina.
SCOLOPENDRIUM
vulgare.
var. glomeratum, *i.*

The ferns of the damp lanes, the caverns, the sheltered rocks, the church walls, and other favourable spots in all the islands, are varied and extremely beautiful. The common brake (*pteris aquilina*) universal as it is in our climate, is not the least remarkable. It covers large tracts, and is often cut for use in the

bedding of cattle. From a sheltered hollow in the grounds at Bon Air in Guernsey, several fronds were taken last year, measuring nearly seven feet in length. The crested brake is a variety found in Guernsey. The hart's tongue (*scolopendrium vulgare*) is incredibly abundant, and extremely rich in varieties in Guernsey. It is also abundant, though not so varied in form, in Jersey. Some of the varieties are almost, if not quite, confined in their range to one island, and are permanent. Others seem to be accidental. As many as thirty varieties have been noticed belonging to Guernsey only.

The *blechnum*, or hard fern, is plentiful in both islands, and the scale-fern is met with, though rarely. The beautiful maiden-hair (*adiantum capillus veneris*), has been found in Alderney and Jersey, but is rare. It grows, when transplanted to favourable situations, in Guernsey. The noble *osmunda regalis*, or flowering fern, is a native of both Jersey and Guernsey, but is not common in either.

One of the characteristic ferns of Jersey is the *polypodium vulgare*, the common polypody, a genus which, under various names, such as oak fern, beech fern, &c., is distributed through the hedges in all the wilder parts of Great Britain. Several marked varieties are found in the Channel Islands.

The prickly fern (*polystichum aculeatum*), and another like it (*p. angulare*), are exceedingly abundant in England and Jersey; being found chiefly in hedgerows, and near cultivated land. The high hedges and narrow shaded roads of Jersey, fully account for its prevalence. Several varieties are described. It is not quite so abundant in Guernsey.

Noble specimens of *lastræa dilatata*, a very beautiful and well-known fern, are found in Guernsey, wherever the plant is not choked by brambles, and other coarser vegetation. Several varieties are met with.

The delicate hay-scented fern (*lastræa æmula*), has been discovered in Guernsey by Mr. James, an accomplished fern bota-

nist resident in that island. It is one of the most beautiful of the English ferns, and is perfectly evergreen.

The lady fern (*athyrium filix fœmina*), is not less beautiful or varied in the Channel Islands than in England, and several of the varieties appear to be permanent and local. They rival the *lastrea œmula* among the British species.

The varieties of *asplenium*, or spleen-wort, are very numerous and beautiful. *A. lanceolatum*, rare in England, is very abundant in Guernsey, growing under the shade of bushes and hedges, where it becomes very large and luxuriant. The *a. trichomanes*, or maiden-hair spleen-wort, is the most delicate of the group, and is more abundant in Jersey than Guernsey. The rue-leaved spleen-wort (*A. ruta muraria*), grows abundantly in both islands on walls and churches, especially loving old mortar. It is difficult to cultivate.

Asplenium marinum grows commonly in caverns and inaccessible places by the sea side, all along the south coast of Guernsey, on the north coast of Jersey, and on the east side of Herm. Many very beautiful varieties of it have been described, two of them peculiar to the Channel Islands. Fronds, measuring three feet in length, have been found in Guernsey, but these are rare. The species, generally, is rare in England.

Asplenium adiantum nigrum, or black spleen-wort, is as common in the islands as in England. It is constantly presenting varieties, but they are all slight, and cannot be propagated. The individuals of this species abound on rocks and old walls.

Two species of adders'-tongue (*ophioglossum*) are found in Guernsey. One of them (*o. lusitanicum*) is almost peculiar to the island. Its fructification occurs in March and April. The other is common in England, and fructifies in July. The first-named of these species, though often described as rare, is common enough on the cliffs near Petit Bot and elsewhere, but it is small, hidden by other vegetation, and requires looking for. The other species is larger and is common in the British islands.

There is a *gymnogramma* found in Jersey, and also found, but rarely, in the British islands.

The picturesque beauty of the ferns in the damp, shady lanes of Guernsey, where they are allowed to grow freely, is quite marvellous, and far surpasses anything to be met with on other parts of the islands, or indeed anywhere in England. Several varieties combine to produce groups that are quite unrivalled; but the *lastræa dilatata*, the hart's tongue, and the male and lady ferns, are, perhaps the most striking. The rich profusion of the common brake in damp, shaded hollows, near the sea, is so great, as to be quite characteristic, — the fronds entirely burying and concealing all other vegetation. In this we have an illustration of the natural and inevitable result of the peculiar climate of Guernsey.

HART'S TONGUE FERNS.

To the ferns may be added the following short list of allied plants:—

Equisetaceæ.	*Characeæ.*	*Marsiliaceæ.*
EQUISETUM arvense, *e. i.*	CHARA	ISOETES
fluviatile, *e. i?*	gracilis, *i.*	hystrix, *e.*
limosum, *e. i.*	hispida, *e. i.*	PILULARIA
palustre,	vulgaris, *e. i.*	globulifera, *i.*
var. polystachion, *e.*		

No true club moss has yet been found in any of the islands, but a little marsiliaceous plant (*Isoetes hystrix*) was discovered by Mr. G. Wolsey, in Guernsey, some time ago. It is a curious species, originally found in Algiers in 1844, but since met with in Corsica, and on the French shores of the Mediterranean. It has also been found on the coast of Britany, but not hitherto in England. Jersey possesses a rare pill-wort (*pilularia globulifera*) to match this curiosity.

Mosses.

ANACALYPTA
Starkeana, *e.*
ANDRŒA
Rothii, *e.*
rupestre, *e.*
ANICTORGIUM
ciliatum, *i.*
ARCHIDIUM
phascoides, *e.*
AULACOMNICON.
palustre, *e.*
BARTRAMIA
fontana, *e. i.*
pyriformis, *e. i.*
BRACHIODUS tricodes, *e.*
BRYUM albicans, *i.*
annotinum, *e.*
argenteum, *e. i.*
capillare, *e.*
cernuum, *e.*
Donianum, *i.*
elongatum, *e.*
horneum, *i.*
intermedium, *e.*
julaceum, *e.*
ligulatum, *i.*
nutans, *e.*
turbinatum, *i.*
CAMPYLOPUS flexuosus, *e.*
tophaceus, *e.*
CERATODON
purpureus, *e.*
CYNODONTIUM
Bruntoni, *e.*
DESTAMODON
nervosus, *e.*
DICRANUM bryoides, *i.*
cerviculatum, *e.*
crispum, *e.*
falcatum, *e.*
fuscescens, *e.*
heteromallum, *e. i.*
majus, *e.*
palustre, *e.*
pellucidum, *e.*
rufescens, *e.*
scoparium, *e. i.*
undulatum, *i.*
varium, *e.*
DIDYMODON
purpureum, *i.*
rubellus, *e.*
FISSIDENS bryoides, *e.*
taxifolius, *e.*
FUMARIA
hygrometrica, *e. i.*
GRIMMIA pulvinata, *e. i.*
GYMNOSTOMUM
microstomum, *e.*
pyriforme, *i.*
rupestre, *e.*
squarrosum, *e.*
truncatulum, *i.*
HOOKERIA lucens, *i.*
HYPNUM aduncum, *e.*
albicans, *e. i.*
alopecurus, *i.*
complanatum, *i.*
confertum, *i.*
cupressiforme, *e. i.*
cuspidatum, *e.*
denticulatum, *e. i.*
elegans, *e.*
fluitans, *i.*
glareosum, *e.*
illecebrum, *e.*
irriguum, *e.*
lutescens, *i.*
molluscum, *i.*
murale, *i.*
plumosum, *e.*
populeum, *e.*
prælongum, *e. i.*
proliferum, *i.*
pumilum, *e. i.*
purum, *e. i.*
resupinatum, *e. i.*
riparium, *e.*
ruscifolium, *e. i.*
rutabulum, *e. i.*
sericeum, *i.*
serpens, *e. i.*
squarrosum, *e. i.*
stellatum, *e.*
striatum, *e.*
Swartzii, *e. i.*
sylvaticum, *e.*
triquetrum, *i.*
velutinum, *e.*
ISOTHECIUM
alopecurum, *e.*
myosuroides, *e.*
myurum, *e.*
LESKEA sericea, *e.*
subrufa, *i.*
LEUCODON sciuroides, *e.*
MNIUM hornum, *e.*
rostratum, *e.*
MNIUM
subglobosum, *e.*
NECKERA
complanata, *e.*
OMALIA
trichomanoides, *e.*
ORTHOTRICHUM
affine, *e.*
anomalum, *e.*
crispum, *e.*
diaphanum, *e.*
PHASCUM bryoides, *e.*
cuspidatum, *e.*
nitidum, *e.*
serratum, *e.*
subulatum, *e. i.*
PHYSCOMITRIUM
pyriforme, *e.*
POLYTRICHUM
aloides, *e. i.*
commune, *e. i.*
juniperum, *e. i.*
piliferum, *e.*
undulatum, *e. i.*
POTTIA crinita, *a.*
Flemii, *e.*
truncata, *e.*
PTEROGONIUM
gracile, *i.*
RACOMITRIUM
canescens, *e.*
RHABDOWEISSIA
denticulata, *e.*
fugax, *e.*
SCHISTIDIUM
maritimum, *e.*
SPHAGNUM
acatifolium, *e.*
cymbifolium, *e.*
molluscum, *e.*
obtusifolium, *i.*
SPLACHNUM
ampullaceum, *e.*
TORTULA fallax, *e.*
muralis, *e.*
subulata, *e.*
suralis, *e. i.*
unguiculata, *e. i.*
TRICHOSTOMUM
tophaceum, *e.*
WEISSIA
cirrhata, *e.*
controversa, *e. i.*
crispida, *e.*

The list of mosses is limited to Guernsey and Jersey; the names of species found in the former island being contributed by Major Smith, and those found in the latter by Mr. Piquet. There can be little doubt that careful search would yield additional species in both islands. Jersey, perhaps, requires chief attention, since there are hardly more than fifty named from that island, and upwards of one hundred from Guernsey, only twenty-five being common to the two islands. It is very unlikely that this is at all a correct statement of the case; though from the peculiarity of the climate these plants are likely to be more varied, as well as more abundant, in Guernsey than in Jersey. No account of the mosses from either Sark, Alderney, or Herm, has been received.

Sark would appear to be rich in species; but in Alderney and Herm the conditions of the ground are not quite so favourable.

The mosses add much to the picturesqueness of old banks, walls, and old wood, attaching themselves readily, and growing freely in all parts of Guernsey. They are less strikingly manifest in the other islands, for want of favourable soil in prominent places. The variety they offer is, however, remarkable, and they are often extremely beautiful, the fructification being very vigorous, and the size of the plants occasionally so large as to be almost gigantic, in comparison with the dwarfed forms common in our latitudes.

The following short list of certain plants allied to mosses has been communicated by Mr. Piquet, as occurring in Jersey No information concerning them has been received from either of the other islands.

Jungermanniæ, Marchantiæ, &c.

ANTHOCEROS punctatus, *i.*

JUNGERMANNIA albicans, *i.*
asplenioides, *i.*
bidentata, *i.*
dilatata, *i*
emarginula, *i.*
epiphylla, *i.*
γ furcifera, *i.*
platyphylla, *i.*
polyanthus, *i.*
pusilla, *i.*
tamarisci, *i.*

MARCHANTIA conica, *i.*
hemispherica, *i.*

TARGIONIA hypophylla, *i.*

Lichens.

ACAROSPORA cervina—
α squamulosa, *e. i.*
δ smaragdula, *e.*
ς sinopica, *e.*
ARTHONIA astroidea, *e*
β Swartziania, *e. i.*
γ anastomosans, *e.i.*
gregaria—
a. cinnabarinum, *e. i.*
e. dubium, *e. i.*
f. detritum, *e. i.*
lurida, *i.*
ARTHOPYRENIA
epidermidis, *i.*
β analepta, *i.*
δ cinerea, *e. i.*
ςcinereo pruinosa,*i.*
gibbosa, *e.*
β ocellata, *e.*
BACIDIA atrogrisea (Delise), *i.*
muscorum, *i.*
rosella, *i.*
rubella, *i.*
BIATORINA grossa, *i.*
BILIMBIA anomala, *i.*
sphæroides.(Sommf)*e.i.*
BÆOMYCES byssoides, *e. i.*
roseus, *e.*
BORRERA aquila, *e. i.*
astroidea, *i.*
cæsia, *i.*
β tribacea, *e.*
γ albinea(Ach.) *e.i.*
ciliaris, *e. i.*
hispida, *i.*
β tenella, *e. i.*
leucomela,* *e. i.*
obscura, *i.*
γ virella, *i.*
ε adglutinata, *i.*
pulverulenta, *e. i.*
stellaris, *e. i.*
BUELLIA myriocarpa, *e.i.*
β punctiformis, *e. i.*
CALLOPISMA
arenarium, *e. i.*
aurantiacum, *e.*
cerinum, *e. i.*
ferrugineum, *i.*
β festivum, ς. *i.*
CALLOPISMA
luteo-album, *e. i.*
vitellinum, *e. i.*
CHIODECTON sarniensis, *e.*
CLADONIA coccifera, *i.*
δ deformis, *e. i.*
a. tubiformis, *i.*
ε digitata, *i.*
γ Floerkeana, *i.*
η macilenta, *e.*
c. filiformis, *e. i.*
endivifolia, *i.*
β alcicornis, *e. i.*
furcata, *i.*
β racemosa—
b. recurva, *e. i.*
γ subulata, *i.*
δ pungens, *e. i.*
ε marginalis, *e.*
gracilis —
α cervicornis, *e. i.*
β verticillata, *i.*
γ hybrida, *i.*
b. simplex, *i.*
δ degenerans, *e.*
pyxidata—
α pocillum, *e.*
d. tuberculosa, *i.*
β fimbriata, *e. i.*
b. dendroides,*i.*
g. denticulata, *i.*
h. carpophora, *i.*
rangiferina, *e. i.*
squamosa—
α ventricosa, *e.*
b. attenuata, *i.*
β microphylla—
a. simpliuscula, *i.*
b. prolifera, *e. i.*
uncinlis—
c. turgescens, *e i.*
COLLEMA ceranoides, *e.*
cheileum, *e. i.*
crispum, *e.*
melænum—
γ jacobeifolium, *i.*
plicatile, *e.*
pulposum, *i.*
β granulatum, *i.*
γ limosum, *e. i.*
δ cristatum, *e. i.*
COLLEMA turgidum, *i.*
CORNICULARIA
aculeata, *e. i.*
β cœlocaula, *i.*
DIPLOICIA canescens, *e. i.*
DIPLOTOMMA
albo-atrum, *e. i.*
δ epipolium, *i.*
ENDOCARPON fluviatile, *e.*
minutum, *e. i.*
β complicatum, *e.*
pusillum, *i.*
EVERNIA furfuracea, *e.*
prunastri, *e. i.*
β stictocera, *e. i.*
GRAPHIS dendritica, *e. i.*
β obtusa, *e.*
inusta,—
a. macularis, *e.*
b. elongata, *e. i.*
d. simpliuscula, *e. i.*
Lyellii, *e. i.*
scripta—
β abietina, *e. i.*
η radiata, *e. i.*
κ tremulans, *i.*
γ eutypa, *i.*
ν diffracta—
c. radiata, *i.*
GYALECTA cupularis, *i.*
HÆMATOMMA
coccineum, *i.*
ventosum, *e. i.*
ICMADOPHILA
æruginosa, *e.*
LECANIA carneo-lutea, *e.i.*
fuscella, *e. i.*
LECANORA albella, *e. i.*
β angulosa, *i.*
atra, *e. i.*
coarctata—
δ elacista (Ach.) *e.i.*
frustulosa, *e.*
glaucoma, *i.*
β sulphurea, *e.*
pallescens—
α parella, *e. i.*
β tumidula, *e. i.*
γ Turneri, *e.*
subfusca, *e. i.*
β distans, *e. i.*

* In fruit!

LECANORA subfusca—
γ glabrata, *e. i.*
δ pinastri, *e.*
sulphurea, *e. i.*
tartarea, *e. i.*
varia, *e. i.*
ε symmicta, *i.*
LECIDEA atro-sanguinea (Hoffm.), *e. i.*
contigua, *e. i.*
γ confluens, *e. i.*
δ convexa, *e.*
parasema, *i.*
β elœochroma, *e. i.*
γ enteroleuca, *e. i.*
δ saxicola, *e.*
rupestris, *e.*
uliginosa, *e. i.*
LECOTHECIUM nigrum, *e.*
LEPTOGIUM lacerum, *e. i.*
palmatum, *e. i.*
sinuosum, *e. i.*
tremelloides, *e. i.*
LICHINA
pygmœa (Ag.), *e. i.*
NEPHROMA levigatum, *i.*
var. undel. *i.*
resupinatum—
β parile, *e.*
OPEGRAPHA atra, *i.*
a. denigrata, *i.*
b. parallela, *e. i.*
c. nigrita, *e. i.*
Chevallieri (Leight), *i.*
herpetica, *e.*
lyncea, *e. i.*
rupestris, *e.*
saxatilis, *e. i.*
varia, b. notha, *e. i.*
ε tigrina, *e. i.*
β diaphora, *i.*
γ rimalis, *e. i.*
δ pulicaris, *e.*
vulgata, b. stenocarpa, *i.*
γ siderella, *i.*
PANNARIA brunnea—
β coronata, *e. i.*
plumbea, *e.*
PARMELIA aleurites, *e. i.*
Borreri, *e. i.*
caperata, *e. i.*
conspersa, *e. i.*
olivacea, *e. i.*
β aquiloides, *e. i.*
PARMELIA
perlata, *e. i.*
physodes, *e. i.*
saxatilis, *e. i.*
β leucochroa, *e. i.*
γ furfuracea, *e. i.*
δ omphalodes, *e. i.*
sinuosa, *i.*
β levigata, *i.*
tiliacea, *e. i.*
β scortea, *e. i.*
PELTIGERA canina, *e. i.*
β rufescens, *e. i.*
δ scutata, *e.*
ε pusilla, *i.*
horizontalis, *i.*
polydactyla, *i.*
PERTUSARIA
communis, *e. i.*
fallax, *i.*
glomulifera—
γ sorediata, *e. i.*
leioplaca, *e. i.*
pustulata, *i.*
PETRACTIS
exanthematica, *e.*
PHLYCTIS agelœa, *i.*
PHYSCIA candelaria, *e. i.*
φ concolor, *e.*
chrysophthalma, *e i.*
flavicans *e. i.*
parietina, *i.*
ε lobulata, *e. i.*
ϰ viridis, *e. i.*
PLACODIUM candicans, *e.*
fulgens, *e. i.*
murorum, *e. i.*
β lobulatum, *i.*
ε citrinum, *i.*
PSORA lurida, *e.*
PYRENULA nitida. *e. i.*
b. nitidella, *i.*
β dermatodes, *i.*
PYRRHOSPORA
quernea, *e. i.*
RAMALINA calicaris—
α fraxinea, *i.*
β fastigiata. *e. i.*
γ canaliculata, *e. i.*
δ thrausta, *i.*
ε farinacea, *e. i.*
pollinaria, *e. i.*
scopulorum, *e. i.*
β polymorpha, *i.*
RHIZOCARPON
geographicum, *e. i.*
petræum—
γ concentricum, *e.i.*
δ Œderi, *e.*
RINODINA atrocinerea, *e.i.*
exigua—
δ periclea, *e. i.*
ROCCELLA
fusciformis, *e. i.*
tinctoria, *e. i.*
SPHÆROPHORON
coralloides, *e. i.*
SPHINCTRINA
turbinata, *i.*
SQUAMARIA
cartilaginea, *e. i.*
circinata, *e.*
crassa, *e.*
saxicola, *e. i.*
STENOGRAPHA anguina, *i.*
α diffusa, *i.*
b. flexuosa, *i.*
c. radiata, *e. i.*
d. divaricata, *i.*
β pulverulenta, *e. i.*
STICTA aurata, *e.*
fuliginosa, *e.*
glomulifera, *e.*
herbacea, *e.*
limbata, *e. i.*
pulmonacea, *e.*
scrobiculata, *e.*
(sp. undet.) *i.*
STIGMATIDIUM
crassum, *i.*
SYNECHOBLASTUS
nigrescens, *e. i.*
THALLOIDIMA candida, *e.*
vesiculare, *e. i.*
THELLIDIUM
biformis, *e. i.*
gemmatum, *e. i.*
UMBILICARIA
pustulata, *e. i.*
URCEOLARIA
scruposa, *e. i.*
β byrophila, *i.*
USNEA barbata,—
α florida, *e. i.*
β hirta, *e.*
γ plicata, *e. i.*
VERRUCARIA
mutabilis, *e. i.*

The Jersey species of the above catalogue were supplied by C. Larbalestier, Esq., of Jersey, and St. John's College, Cambridge. The catalogue does not profess to be absolutely complete, and Mr. L. observes, in a note appended to the list, that "a glance at a few of the more obscure genera, such as *Collema, Lecanora, Lecidea,* &c., and the total absence of others, will convince every lichenist that much yet remains to be done in this department of the Cryptogamia."

Mr. Larbalestier also remarks that the *apothecia* of the rare plant *Borrera leucomela,* were detected by him in the winter of 1861. He collected several specimens in fine fructification on the slopes of sand hills on the Quenvais in St. Brelade's Parish, about a mile and a-half from the sea. His specimens were covered with spermatiferous spermogones, and are, in all other respects, perfect. This is the more interesting, as no other instance of fructification, within the British islands, is recorded.

Concerning another rare plant *Physcia flavicans,* the Rev. Churchill Babington, in his account of the lichens of New Zealand, remarks—"Found in Western Europe very rarely fertile; fruit seen in Guernsey by Mrs. Collings; and in Cornwall by Mr. Greenwood and others;" (Flora. p. 5). The fructification has not been seen in Jersey, where, contrary to its usual habit, the plant invariably grows on rocks, slightly covered with earth; and sometimes (in the same situation), on *jungermannia dilatata.* It is never seen on trees or stems of heath.

"A very excellent species has lately been discovered growing, not very sparingly, in different parts of Jersey, often in the damp crevices of granite rocks, but more frequently under the shade of *Erica cinerea.* This species has been declared, on the authority of Mr. Mudd, new to Britain, and its true place among the lichens has not yet been satisfactorily determined. From its structure and general appearance it would seem to bear considerable affinity to *Lecidea salwesii* of Borrer."—C. L.

The Guernsey catalogue is communicated by Mrs. Collings.

There is no information from Sark, Alderney, or Herm, but all these islands are rich in this department of the Flora.

The lichens play a part by no means unimportant in the general features of all the islands. The quantity of exposed rock is so large, not only near the sea, but often inland, and the climate is so favourable, that the coating of these singular forms of vegetation communicates colour and tone to an extent sufficient to obscure very greatly the mineral character of the rocks. The trees also are thickly coated, especially near the sea and on the western side, that being the direction of the prevalent damp winds. Some species are abundant and grow to a large size.

Fungi (*Mushrooms, &c.*)

AGARICUS campestris, *e.*
cinnamoneus, *e.*
coccineus, *e.*
flexuosus, *e.*
giganteus, *e.*
micaceus, *e.*
muscareus, *e.*
odorus, *e.*
peronatus, *e.*
pileolarius, *e.*
pratensis, *e.*
processus, *e.*
rufus, *e.*
semiglobosus, *e.*
squamosus, *e.*
variabilis, *e.*
vellerius, *e.*
velutipes, *e.*
BOLETUS cristatus, *e.*
labyrinthiformis, *e.*
medulla panis, *e.*
pachypes.
scaber, *e.*
CANTHARELLUS
cibarians, *e.*
CLATHRUS cancellatus, *e.*
CLAVARIA coralloides, *e.*
inæqualis, *e.*
ophioglossoides, *e.*
EXIDIA glandulosa, *e.*
GEASTER limbatus, *e. i.*
mammosus, *i.*
HYDNUM repandum, *e.*
LYCOPERDON
gemmatum, *e.*
giganteum, *e.*
saccatum, *e.*
MERULIUS lachrymans, *e.*
tremellosus, *e.*
MORCHELLIA esculenta, *e.*
NITIDULARIA
campanulata, *e.*
PEZIZA aurantia, *e.*
auricula, *e.*
cupularis, *e.*
lanuginosa; *e.*
punicea, *e.*
scutellata, *e.*
troma pustulata, *e.*
POLYPORUS intybacius, *e.*
POLYPORUS squamosus, *e.*
versicolor, *e.*
RETICULARIA alba, *e.*
SCLERODERMA
verrucosum, *e.*
vulgare, *e.*
SPHÆRIA brassica, *e.*
cupressiformis, *e.*
digitata, *e.*
fragiformis, *e.*
fraxinea, *e.*
gregaria, *e.*
nigra, *e.*
SPUMARIA mucilago, *e.*
THELOPHORA cœrulea, *e.*
hirsuta, *e.*
purpurea, *e.*
TREMELLA albida, *e.*
arborea, *e.*
mesenterica, *e.*
TUBER cibarium, *e.*
TUBERCULARIA
vulgaris, *e. i.*
UREDO petroselini, *i.*
senecionis, *i.*

This list of fungi consists almost entirely of Guernsey species. It is supplied by F. Lukis, Esq., of that island. One or two Jersey species are added by Mr. Piquet. Both Jersey and Guernsey are rich in species, but they have not received special attention in either island.

Sea Weeds.

ARNIFELDTIA plicata, *e.*
ARTHROCLADIA villosa, *i.*
ASPEROCOCCUS
compressus, *a. i.*
echinatus, *i.*
Turneri, *i.*
BANGIA fusco-purpurea, *i.*
BONNEMAISONIA
asperagoides, *a. e. o.*
BRYOPSIS
hypnoides, *a. i. o.*
plumosa, *a. e. i. o.*
CALLIBLEPHORIS
ciliata, *e. i.*
jubata, *e. i.*
CALLITHAMNION
arbuscula, *e. o.*
brachiatum, *i.*
byssoideum, *e. i.*
corymbosum, *e.*
Daviesii, *i.*
Hookeri, *e. i.*
pedicillatum, *a. e.*
pluma, *e.*
plumula, *a. e. i. o.*
roseum, *e.*
Rothii, *e.*
spongiosum, *e.*
tetragonum, *e. i.*
tetricum, *e. i.*
Turneri, *i.*
CALLOPHYLLIS
lacinata, *e. i. o.*
CARPOMITRA Cabrerœ, *a.i.*
CERAMIUM
acanthonotum, *e. i. o.*
botryocarpum, *a. i.*
ciliatum, *a. e. i. o.*
Deslongchampii, *i.*
diaphanum, *a. i.*
echionotum, *a. e. i. o.*
fastigiatum, *i.*
flaballigerum, *e. i. o.*
nodosum, *e. i.*
rubrum, *a. e. i. o.*
strictum, *e. i. o.*
CHAMPIA parvula, *e. i.*
CHONDRIA dasyphylla, *i.*
tenuissima, *i.*
CHONDRUS
crispus, *a. e. i. o.*
norwegicus, *e.*
CHORDA filum, *a. e. i. o.*
lomentaria, *a. e. i. o.*
CHORDARIA divaricata, *i.*
flagelliformis, *i.*?
CHYLOCLADIA
articulata, *a. e. i.*
? clavellosa, *a. e. i.*
CLADOPHORA albida, *i.*
arcta, *a. i.*
falcata, *i.*
glaucescens, *i.*
lanosa, *a. i.*
lætevirens, *i.*
pellucida, *a. e. i.*
refracta, *i.*
repens, *e.*
rupestris, *i.*
uncialis, *i.*
CLADOSTEPHUS
spongiosus, *i.*
verticillatus, *a. e. i.*
CODIUM
tomentosum, *a. e. i.*
CONFERVA aerea, *i.*
implexa, *i.*
CORALLINA elongata, *i.*
officinalis, *a. e. i.*
squamata, *a. e. i.*
CORDYLECLADIA erecta, *i.*
CRONANIA attenuata, *e.*
CUTLERIA multifida, *a.e.i.*
CYSTOCLONIUM
purpurescens, *i.*
CYSTOSCIRA barbata, *a.e.*
ericoides, *a. e. i.*
fœniculatæa, *a. i.*
fibrosa, *a. e. i.*
granulata, *a. i.*
DASYA arbuscula, *a. e.*
coccinea, *a. e. i.*
venusta, *a. e. i.*
DELESSERIA alata, *a. e. i.*
angustissima, *i.*
hypoglossum, *a. e. i.*
ruscifolia, *a. e. i.*
sanguinea, *a. e. i.*
sinuosa, *a. e. i.*
DESMARESTIA
aculeata, *a. e. i.*
ligulata, *a. e. i.*
viridis, *a. e. i.*
DICTOSYPHON
fœniculaceus, *a. i.*
DICTYOTA
dichotoma, *a. e. i.*
DUDRESNAIA coccinea, *i.*
DUMONTIA
filiformis, *a. e. i. o.*
ECTOCARPUS brachiatus, *i.*
fasciculatus, *i.*
granulosus, *e. i. o.*
litoralis, *a. i.*
longifructus, *i.*
Mertensii, *e.*
siliculosus, *i.*
tomentosus, *i.*
ELACHISTEA flaccidea, *i.*
fucicola, *i.*
ENTEROMORPHA
compressa, *a. e. i. o.*
intestinalis, *e.*
FUCUS canaliculatus.
ceranoides, *a. e.*
nodosus.
serratus.
tuberculatus, *e.*
vesiculosus.
FURCELLARIA
fastigiata, *a. e. i. o.*
GELIDIUM corneum, *a.e.i.o*
GIGARTINA acicularis, *i.*
mamillosus, *a. e. i.*
pistillata, *a. e. i.*
Teedii, *i.*
GLOIOSIPHONIA
capillaris, *a. i.*
GRACILARIA compressa, *i.*
confervoides, *a. e. i. o.*
GRIFFITHSIA barbata, *i.*
corallina, *a. e. i. o.*
equisetifolia, *a. e. i. o.*
secundiflora, *a. e. i. o.*
setacea, *a. e. i. o.*
simplicifilum, *a. i.*
HALIDRYS siliquosa, *a.e.i.o*
HALIMENIA ligulata, *a. i.*
HALISERIS
polypodioides, *e. i.*
HELMINTHORA
divaricatus, *e. i.*
HIMANTHALIA lorea, *a.e.i.*
HYPNEA purpurascens, *a.e*
IRIDŒA edulis, *a. e. i.*
JANIA
corniculata, *a. e. i .o.*
rubens, *a. e. i.*
KALLYMENIA Dubyi, *a. e.*
reniformis, *a. e. i.*
LAMINARIA
bulbosa, *a. e. i. o.*

LAMINARIA
digitata.
phyllitis, *a. i.*
saccharina.
LAURENCIA cæspitosa. *e.*
dasyphylla, *e.*
pinnatifida, *a. e. i. o.*
obtusa, *a. e. i. o.*
LITOSYPHON pusillus, *i.*
LOMENTARIA
kaliformis, *e. i. o.*
ovalis, *e. i.*
reflexa, *e. i.*
LYNGBYA Carmichaelii, *i.*
majuscula, *i.*
MESOGLOIA
vermicularis, *a. e. i.*
MYRIOTRICHA
clavæformis, *i.*
filiformis, *a. i.*
NACCARIA Wigghii, *a. i.*
var. (?) *i.*
NEMALEON multifidum, *i.*
NITOPHYLLUM
Bonnemaisonni, *a. e. i.*
Gmelini, *a. e. i.*
Hilliæ, *a. e. i.*
laceratum, *a. e. i. o.*
punctatum. *a. e. i. o.*
versicolor, *a. i.*
PADINA pavonia, *a. e. i.*
PHYLLOPHORA
membranifolius, *a. e. i.*
PHYLLOPHORA
palmettoides, *i.*
rubens, *a. e. i.*
PLOCAMIUM
coccineum, *a. e. i o.*
POLYIDES rotundus, *a.e.i.*
POLYSIPHONIA
atro-rubescens, *i.*
Brodiæi, *i.*
byssoides, *e. i.*
elongata, *i.*
elongella, *i.*
fastigiata.
fibrata, *i.*
fibrillosa, *i.*
formosa, *i.*
Griffithsiana, *i.*
nigrescens, *e. i.*
obscura, *e. i.*
simulans, *e. i.*
spinulosa, *i.*
subulifera, *i.*
urceolata, *i.*
PORPHYRA laciniata, *a.e.i.o*
vulgaris, *a. i.*
PTILOTA elegans, ? *a. i.*
plumosa, *i. o.*
sericea, *a. e.*
PUNCTARIA latifolia, *a. i.*
plataginea, *a. i.*
tenuissima, *a. i.*
PYCNOPHYCUS
tuberculatus, *a. e. i.*
RHODOMELA
lycopodioides, *a. i.*
subfusca, *a. e. i.*
RHODOPHYLLIS bifida, *i.*
RHODYMENIA
palmata, *a. i.*
β sarniensis, *a. e.*
palmetta, *i.*
RIVULARIA atra, *e. i.*
nitida, *e. i.*
RYTIPHLŒA
fruticulosa, *a. e. i. o.*
pinastroides, *a. e. i.*
thyoides, *e. i.*
SCINAIA furcellata, *i.*
SPHACELARIA cirrhosa, *i.*
filicina, *a. e. i.*
scoparia, *a. e. i.*
sertularia, *e. i.*
SPHÆROCOCCUS
coronopifolius, *a. e. i.*
SPOROCHNUS
pedunculatus, *e. i.*
SPYRIDIA filamentosa, *i.*
STENOGRAMME
interrupta, *i.*
STRIARIA attenuata, *i.*
STYLOPHORA rhizoides, *i.*
TAONIA atomaria, *i.*
ULVA lactuca, *a. i.*
latissima.
linza, *a. i.*
WRANGELIA multifida, *e.i.*

This list of sea-weeds is extensive though not at all complete. It includes Alderney, Jersey, Guernsey and Sark; Herm not being represented, though certainly rich. Two hundred and twenty-two species are named, and of these, one hundred only are recorded as common to the two larger islands. The Jersey species, not recorded as found in Guernsey, are also about a hundred; while the Guernsey species, not found in Jersey, are only about thirty in number. This disproportion is probably only apparent, and needs confirmation.

For the Jersey list, the authority is Miss White; and for the Guernsey and Sark species, Miss Le Lievre, both ladies well known as accurate and conscientious naturalists, who have carefully studied this department of botany. The Alderney species have been given by Mrs. Gaudion.

Diatomaceæ.

ACHNANTHES brevipes.
exilis.
longipes.
subsessilis.
ACHNANTHIDIUM.
coarctatum.
lanceolatum.
lineare.
ACTINOCYCLUS.
quinarius, (Ehr.) (1)
ACTINOPTYCHUS.
senarius, Ehr.
AMPHIPLEURA.
sigmoidea.
AMPHIPRORA.
complexa, (Greg.) (2)
elegans.
lepidoptera.
maxima.
vitrea.
AMPHITETRAS.
antediluviana.
var. β.
AMPHORA(3) acuta.
affinis.
binodis.
costata.
crassa.
fasciata.
lævissima.
marina.
minutissima.
ovalis.
robusta.
salina.
Sarniensis,(Grev.)
spectabilis.
ASTEROLAMPRA.
flabellata.(4)
AULISCUS sculptus.
BACILLARIA paradoxa.
BERKELEYA fragilis.
BIDDULPHIA aurita.
Baileyi.(5)
granulata.
pulchella.
regina.(6)
rhombus.
turgida.(7)
CAMPYLODISCUS clypeus.
decorus.
eximius.
Hodgsoni.
limbatus.
CAMPYLODISCUS.
parvulus.
Ralfsii.
simulans.
spiralis.
CHÆTOCEROS.(8)
Wighami.
COCCONEIS diaphana.
var. β.
distans.
Grevillii.
lamprosticta.
Morrisii.
nitida.
ornata.
pinnata.
placentula.
pseudo-marginata.
punctatissima.
sparsa.
transversalis.
COCCONEMA cistula.
lanceolatum.
COLLETONEMA vulgare.
COSCINODISCUS centralis.
concinnus.
eccentricus.
lineatus.
minor, (Kütz.)
minor, (Ehr.)
nitidus.
oculus-iridis.
radiatus.
CYCLOTELLA Dallasiana.
CYMBELLA affinis.
ventricosa.
DENTICULA.
decipiens,Ryl.)M.S) (9)
obtusa.
tenuis.
DIADESMIS Williamsoni.
DIATOMA hyalinum.
DIMEREGRAMMA distans.
fulvum.
marinum.
minor.
mutabile.
nanum.
DORIPHORA amphiceros.
EPITHEMIA constricta.
granulata.
musculus.
turgida.
ventricosa.
EPITHEMIA Westermani.
EUPODISCUS crassus.
fulvus.
Ralfsii.
subtilis.
tessellatus.
FRAGILARIA capucina.
virescens.
GOMPHONEMA.
acuminatum.
curvatum.
dichotomum.
marinum.
tenellum.
vibrio.
GRAMMATOPHORA.
marina.
serpentina.
HIMANTIDIUM gracile.
pectinale.
HOMŒOCLADIA.
filiformis, var. β.
HYALODISCUS cervinus?
ISTHMIA enervis.
LICMOPHORA flabellata.
splendida.
MASTOGLOIA Smithii.
MELOSIRA Borreri.
nummuloides.
varians.
Westii.
MERIDION constrictum.
marinum, (Greg.) (2)
NAVICULA æstiva.
angulosa.
bombus.
dicephala.
didyma.
elliptica.
forcipata.
fusca, (Greg.) (2)
gibberula.
Hennedyi.
incurvata.
inflata.
lacustris.
lævissima.
latissima.
liber.
lyra.
mesotyla, (Ehr.)
musca.
nebulosa.
palpebralis.

NAVICULA pandura.
pectinalis.
prætexta.
pusilla.
pygmæa.
rhombica.
Smithii.
NITZSCHIA amphioxys.
Brebissoni.
closterium.
dubia.
do. var. β.
insignis.
linearis.
minutissima.
palea.
panduriformis, (Greg.) (2) (probably a *tryblionella*).
plana.
scalaris ?(10)
sigma.
socialis.
spathulata.
spectabilis.
virgata.
ORTHOSIRA orichacea.
marina.
PINNULARIA acuminata.
acutiuscula.
Allmaniana.
borealis.
cyprinus.
distans.
hemiptera.
nobilis.
peregrina.
radiosa.
PINNULARIA tabellaria.
viridis.
viridula.
PLAGIOGRAMMA Grev.
Gregoriana.
inæquale.
interruptum.
lævis.
PLEUROSIGMA.
acuminatum.
angulatum.
attenuatum.
decorum.
formosum.
intermedium.
prolongatum.
rigidum.
strigosum.
transversale.
PODOCYSTIS.(11)
Americana.
PODOSPHENIA.
Ehrenbergii.
PODOSIRA hormoidis.
maculata.
Montagnei.(12)
RHABDONEMA arcuatum.
Adriaticum.
minutum.
RHIPIDOPHORA.
Dalmatica.
elongata.
Lyngbyei.
paradoxa.
RHIZOSOLENIA.(13)
stylifomis.
SCHIZONEMA cruciger.
Grevillii.
STAVRONEIS anceps.
STAVRONEIS linearis.
pulchella.
STRIATELLA.
unipunctata.
SURIRELLA angusta.
fastuosa.
lata.
ovalis.
ovata.
SYNEDRA acicularis.
affinis.
arcus.
deformis.
fasciculata.
fulgens.
Gailloni.
gracilis.
investiens.
longissima ?(14)
lunaris.
minutissima.
pulchella.
radians.
superba.
SYNEDRA tabulata.
tenera.
ulna.
var. β.
TRICERATIUM alternans.
armatum.
Brightwellii.
favus.
striolatum.
TRYBLIONELLA.
angustata.
apiculata.
constricta.
gracilis var. β. minor.
punctata.

Notes.

(1) This was the only form seen of the *actinocyclus moniliformis* Ralfs. It was very scarce.

(2) Professor Gregory's species are named separately, simply to show which forms occur.

(3) The list in this genus might have been extended, had it appeared desirable. A sufficient number of names has been given to show that Guernsey may be expected to afford some assistance in clearing up the present confusion. The same remark applies to *Cocconeis*, and other genera.

(4) This species has occurred two or three times in different gatherings.

(5) Dr. Wallich says: "Taken with the skimming net. Evidently a floating species."

(6) Occurs in three of the gatherings—ought to be sought for growing.

(7) Pond and beach at the Vale—plentiful in the slides.

(8) Taken by the skimming net along with *coscinodiscus concinnus*, *rhizose lenia?* and *biddulphia baileyii*. Found in myriads at or near the surface—day quite calm. These are evidently floating species; all contained bright yellow endochrome—could be seen by the naked eye.

(9) Was found originally by Professor Walker Arnott. It appears to be very generally distributed. Character and description will be published in due course.

(10) A single, much hidden valve only occurred.

(11) Two valves only, seen in different slides. Locality: Cobo rocks at extreme low-water, on corallina attached to the rock. The gathering was a very mixed one.

(12) A form occurs not uncommonly, which is probably a peculiar variety of this species.

(13) A second species occurs in one of the sea surface skimmings—a very fine form, but not in a condition to be identified.

(14) Curiously intermediate between *s. longissima* and *s. radians*.

These very simple forms of vegetable life belong to the division of the Algæ, technically called *Chlorospermeæ*. They are extremely interesting, though very minute, and the following remarks, together with the list of species, have been furnished by Mr. T. Glazebrook Rylands, whose attainments in this department of microscopic botany are such as to give great value to all that he communicates.

"Our knowledge of the Diatomaceæ of the Channel Islands is obtained almost entirely from the valuable series of gatherings made at Guernsey, in 1858-9, by Dr. Wallich.*

"The preceding catalogue has been prepared from Dr. Wallich's collection, together with lists and notes made by him at the time. It is designed simply to convey an idea of the richness and variety of the forms to be found in the locality. It does not profess to be either complete or critical; nor is the nomenclature employed entirely consistent throughout.†

"All the species observed, about the names of which there

* "The late Professor Smith, in his *Synopsis of British Diatomaceæ*, records the following species as gathered by himself in Jersey, in 1852:—*epithemia proboscidea* and *e. ventricosa*; *syncora pulchella* and *s. fulgens*; *podosphenia gracilis*; *rhipidophora paradoxa*; *achnanthes longipes*; *striatella unipunctata*; *diatoma hyalinum*."

† "The nomenclature of the Synopsis of British Diatomaceæ has been adopted generally. In a few cases, however, a departure from it appeared unavoidable. In such cases only were changes made."

could be no reasonable doubt, have been included; but there remain others which, in the present state of our knowledge, can be referred with safety to no recorded character, and several which, there can be little doubt, are entirely new. The discussion of these is reserved for a future opportunity.

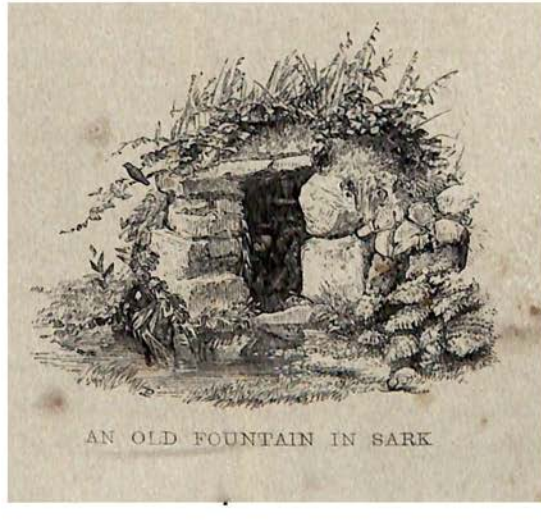
"Dr. Wallich's gatherings are necessarily, many of them, of a very mixed character. Unfortunately, it is in these, almost entirely, that there occur new and doubtful forms, which both require and deserve most careful investigation. So scarce are these in the slides, that the difficulties encountered, and the time and labour already expended in the search for sufficient material on which to construct a character, or apply a name, have been sufficiently discouraging; and suggest very emphatically the good service a careful collector might do to science, by devoting his attention to the growing Diatoms of the Channel Islands. It is not, however, to new species alone, or even principally, that this remark may be applied. Almost the entire order requires revision. There are comparatively few species of which we have had copious gatherings even moderately pure; and, though microscopy may be satisfied with a unique valve, natural history requires much more. It is no false estimate to say that such gatherings as those referred to are, in every sense, by far the most valuable to science—are, in fact, essentially the thing of which we stand in need.

"The general character of the gatherings renders it impossible to give exact localities, except in a very few cases.

"The list of fresh-water species is comparatively small, owing to the fact that there were only two or three such gatherings made. Even these have added something to the list of British species; and there can be no doubt that the catalogue now given might readily be increased with advantage, if a little attention were given to the matter. The fresh-water localities mentioned are Moulin Huet, and the mouth of a little rivulet, opening out into Saint's Bay.

"For marine forms, some of the most productive gatherings were from a brownish film of *zostera marina*, off Salerie battery, at about half-tide mark. Much was found, also, on Algæ and Corallina, in the same locality, and elsewhere, in small rocky pools. Skimming the surface of the sea when calm, with a gauze net, generally yielded valuable results; while the several dredgings made in from eight to twenty-four fathoms produced, as will be seen from the list, those rare and fine forms, which have, as yet, only been obtained by that method. The mode in which several of these occur in Dr. Wallich's gatherings is also suggestive. It would be difficult to name a locality more likely to reward with success a diligent search for these things in their natural haunts, than the shores of Guernsey, or, in general, to point to a more desirable field for the collection of Diatomaceæ than the Channel Islands."—T. G. R.

The subjoined view of one of the small picturesque fountains common in the Channel Islands, derives much of its interest from the characteristic vegetation surrounding the rough granite blocks of which the fountain is constructed.



AN OLD FOUNTAIN IN SARK

Summary of the Flora of the Channel Islands.

	Alderney.	Guernsey.	Jersey.	Sark.	Herm.	Species common to all the Islands.	Total Species.
Trees and Shrubs	25	50	51	21	15	10	64
Flowering plants	262	505	626	230	184	131	690
Sedges and marsh plants	11	31	38	7	3	3	41
Grasses	32	69	82	21	23	15	95
Ferns and club mosses, &c.	9	29	27	?	?	4	35
Mosses, Jungermanniæ, &c.	?	111	67	?	?	?	135
Lichens	?	184	183	?	?	?	257
Fungi	?	67	?	?	?	?	70
Sea-weeds	102	223	195	46	?	?	222
Diatomaceæ	?	253	?	?	?	?	253
Totals	?	1522	?	?	?	?	1862

N.B. In the numbers above given, named varieties are counted with the species.

The peculiarities of climate characterising the Channel Islands may be more clearly appreciated by a study of the above table than by any statement. Of the first four groups, which include a large natural division of plants, there are in all eight hundred and ninety species, of which only one hundred and fifty-nine are common to all the islands. As many as two hundred and thirty-eight or 27½ per cent. of the species are, however, peculiar to Jersey, while only fifty-two species, or just 6 per cent., are absent in Jersey, but found in either Guernsey, Sark or Herm. These latter islands, in fact, show no essential difference in their phanerogamic flora, and may be looked upon as a group existing under very similar conditions. Alderney is distinct; and it possesses a much richer and more varied fauna than Sark, which equals it in area.

When, however, we pass to the consideration of special tribes characteristic of a moist, clouded climate, we see that Guernsey, though it has not more than half the area of Jersey, almost

equals, or even exceeds that island in the number of species. Thus, of twenty-five known species of ferns found in the islands, twenty-one occur in Guernsey and only twenty in Jersey. Five species are found in Guernsey only, and two in Jersey only. The number and proportions of unnamed varieties would illustrate the same peculiarity in a manner yet more marked, and the richness of fern vegetation is certainly far greater in the smaller, damper, and cloudier, but more temperate island.

Similar evidence will no doubt be derived from the other cryptogamic plants when they shall be more completely known. So far as the lichens and fungi have been examined, they point in the same direction, and the mosses appear to do so too. At present, however, the lists of the species of these tribes are not sufficiently complete to justify any generalisation; and it seems impossible that there should be the excessive difference in them that the lists would indicate, when we consider the near vicinity of the islands and their small dimensions.

The botany of the Channel Islands is worthy of a closer comparative study than it has yet received, and would amply repay the philosophical naturalist, able to view in their mutual relations all the natural groups, and their bearing on physical geography and geology. For the present, these comparisons are merely suggested, but we shall return to them in another chapter.

A consideration of some very important facts concerning various foreign species of plants that readily grow and become almost naturalised in some of the islands, will tend yet further to illustrate the peculiarities of the island climates. These facts will be referred to when speaking of horticulture, in the fourth part of this work. It should, however, be observed here, that several foreign species are already so common in Jersey and Guernsey as to affect the general appearance of the vegetation; and the cultivation now going on in Sark will, perhaps, soon have the same effect in that island.

CHAPTER IX.

THE ANIMALS LIVING IN THE CHANNEL ISLANDS OR IN THE ADJACENT SEAS.

The Zoology, like the Botany of the Channel Islands, can only be properly understood by a consideration of each separate group, and an account of the actual state of positive information concerning each. Here, also, a number of active, intelligent naturalists have long been at work, but the published results are comparatively few; and the following pages include a very large amount of matter which will appear in type, in a collected form, for the first time. Each group of animals will be considered, and the authority named for the list of species given. The lists will be in alphabetical order of genera, as being convenient for reference. When confined to particular islands, the same letters as those used in the last chapter, will indicate the islands alluded to. Otherwise the species are found generally in all the islands or their surrounding seas. An asterisk (*) will denote very rare visitants where the fact is clearly known. A mark of interrogation (?) doubtful species; and a dagger (†) introduced species. It is right to state that, while some of the lists are probably almost complete, many of them are only first approximations, and some are given only for one or more of the islands when no definite information has been obtained from the others.

Mammalia.

ARVICOLA agrestis (field-mouse), *e. i.*
pratensis (bank vole), *o.*
† ASINUS vulgaris (ass).
* BALÆNA mysticetus (right whale).
† BOS taurus (ox).
† CANIS familiaris (dog).
† CAPRA hircus (goat).
DELPHINUS delphis (dolphin).
† EQUUS caballus (horse).
† ERINACEUS Europæus (hedgehog), *e.*
FELIS catus (cat).
LEPUS cuniculus (rabbit).
timidus (hare).
† MUS decumanus (brown rat), *a. e. i. u.*
musculus (mouse).
rattus (black rat), *a. e. o. u.*
MUSTELA furo (ferret).
vulgaris (weasel), *e. i.*
† OVIS aries (sheep).
PLECOTUS auritus (long-eared bat).
PHOCÆNA communis (porpoise).
SOREX araneus (shrew), .
† SUS scrofa (hog).
TALPA vulgaris (mole), *a. i.*
VESPERTILIO pipistrellus (common bat), *e. i.*
VULPES vulgaris (fox), *i.*

This list is not very large, and it will be observed that several species have been introduced by man. On the other hand, several species, once indigenous, have certainly disappeared. The red deer, and perhaps some other species of cervus, lived on the island a few centuries ago, and it is not unlikely that the wolf and wild cat accompanied them. The hare, now common enough in Guernsey, has been once lost, and the species replaced from England. The mole is absent in Guernsey, and the weasel in Alderney, Sark, and Herm. The black rat, so rare in England, is common in Alderney and Herm. It is present in Sark, to the exclusion of the brown rat, and the two species exist together in the small island of Brechou, immediately adjacent. It is nearly extinct in Guernsey, and quite so in Jersey. The fox is only found in Jersey. The rabbit is and seems always to have been exceedingly abundant. The hedgehog has been seen in Guernsey, but has probably been recently introduced.

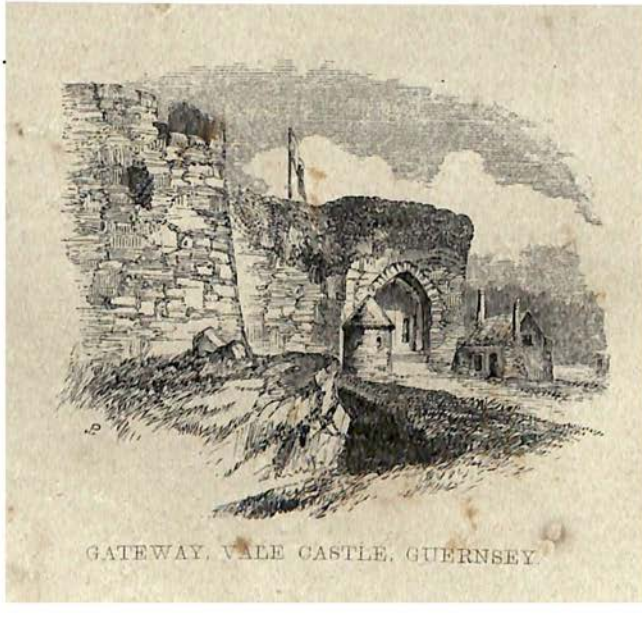
Of the marine mammalia, several have been seen in the adjacent seas, as occasional visitors, and among these may be included a right whale. This species is named in the list, but the others can hardly be considered as belonging to the island fauna. The porpoise and the dolphin are not uncommon around Guernsey, often following the shoals of mackarel and other fish into shallow water. The grampus (*phocæna orca*), which is not in-

cluded in the list, must have visited these waters on its course up Channel. It is certainly rare, however, in these latitudes.

Of other quadrupeds, there are dogs of all the ordinary kinds in all the islands, but there is no special island breed. In Guernsey and Jersey, Newfoundland dogs have been introduced, and together with mastiffs, they afford good varieties. Of cats, it may be remarked that there are several examples of the tailless or manx variety in Sark, a fact not noticed by Mr. Bell, although he mentions their occurrence in Cornwall and Devonshire.

There is a breed of horses in the islands modified chiefly from the Breton and Normandy types, and remarkable for endurance and good temper. The island horned cattle are remarkable; but it will be convenient to refer to them and other domesticated animals in the chapter on agriculture.

The subjoined illustration represents a picturesque ruin in Guernsey. It is a tradition, supported by documentary proof, that the red deer from Herm swam across from that island to the point of land on which the Vale Castle is built, up to a very recent time.



GATEWAY, VALE CASTLE, GUERNSEY.

Birds.

ACCENTOR modularis (hedge-sparrow), *e.o.*
ALAUDA arvensis (sky-lark), *e. o.*
arborea (woodlark), *e.o.*
ALCA torda (razorbill), *e.*
ALCEDO ispida (king-fisher), *e. o.*
ANAS *acuta (pintail duck), *e.*
boschas (wild duck), *e.o.*
clangula (golden eye), *e.*
*clypeata (shoveller).
crecca (teal), *e. o.*
ferina (pochard), *e.*
ferruginea (ferruginous duck).
fusca (velvet scoter), *e.*
*marila (scaup duck).
mollissima (eider duck), *e.*
nigra (common scoter), *e.*
penelope (wigeon), *e.o.*
querquedula (garganey), *e.*
*spectabilis (king duck).
strepera (gadwall).
tadorna (common shell-drake), *e.*
ANSER albifrons (white-fronted goose), *e.*
bernicla (brent goose), *e. o.*
ferus (greylag goose), *e. o.*
*leucopsis (bernicle goose), *e. o.*
segetum (bean goose), *e.*
ANTHUS arboreus (tree pipit).
petrosus (rock pipit), *e.*
pratensis (meadow pipit), *e.*
ARDEA cinerea (heron), *e.o.*
*minuta (little bittern), *e.*
*purpurea (purple heron), *e.*
stellaris (bittern), *e.*
BOMBYCILLA garrula (Bohemian waxwing), *e.*
CALIDRIS arenaria (sanderling), *e. o.*
CAPRIMULGUS europeus (night jar), *e. o.*
CARBO cormoranus (cormorant), *e. o.*
cristatus (shag), *e.*
CERTHIA familiaris (creeper), *e. o.*
CHARADRIUS cantianus (Kentish plover), *e.*
hiaticula (ringed plover), *e.*
minor (little ringed plover), *e.*
morinellus (dotterell), *e. o.*
pluvialis (golden plover), *e. o.*
CINCLUS aquaticus (dipper), *e.*
COLUMBA œnas (stock-dove), *e. o.*
livia (rockdove), *e. o.*
palumbus (ring-dove), *e*
turtur (turtle-dove), *e.*
COLYMBUS arcticus black-throated diver), *e.*
glacialis (great northern diver), *e.*
septentrionalis (red-throated diver), *e.*
CORVUS corax (raven), *e.*
cornix (hooded crow), *e. o.*
corone (crow), *e. o.*
*frugilegus (rook), *e.*
*glandarius (jay), *e.*
*monedula (jackdaw), *e. o.*
pica (magpie), *e.*
CUCULUS canorus (cuckoo), *e. o.*
CYGNUS minor (Bewick's swan), *e.*
musicus (hooper), *e.*
CYPSELUS apus (swift), *e.*
EMBERIZA citrinella (yellow-hammer), *e. o.*
miliaria (common bunting), *e.*
nivalis (snow bunting), *e. o.*
*FALCO æruginosus (marsh harrier), *e.*
æsalon (merlin), *e.*
albicilla (white-tailed eagle), *e.*
cyaneus (hen-harrier), *e.*
buteo (buzzard), *e.*
*furcatus (swallow-tailed kite), *e.*
*gyrfalco (gyr-falcon) *e.*
*haliætus (osprey), *e.*
lagopus (rough-legged buzzard), *e.*
*milvus (kite), *e.*
nisus (sparrow hawk), *e. o.*
*palumbarius (goshawk), *e.*
peregrinus (peregrine falcon), *e. o.*
*sub-buteo (hobby), *e.*
tinnunculus (kestrel), *e. o.*
FRINGILLA cannabina (linnet), *e. o.*
carduelis (goldfinch) *e.o*
chloris (greenfinch), *e.o.*
coccothraustes (hawfinch), *e.*
cœlebs (chaffinch), *e. o.*
domestica (house sparrow).
montana (tree sparrow), *o.*
montifringilla (brambling), *e. o.*
FULICA atra (coot), *e.*
GALLINULA chloropus (moorhen), *e.*
crex (landrail), *e. o.*
porzana (spotted crake), *e.*
*GRUS cinerea (crane), *e.*
HÆMATOPUS ostralegus (oyster-catcher), *e.o.*
HIRUNDO rustica (swallow), *e. o.*
riparia (sand martin), *e. o.*
urbica (martin), *e. o.*
*IBIS falcinellus (glossy ibis), *e. o.*
LANIUS collurio (red-backed shrike),

LARUS argentatus (herring gull), *e. o.*
atricilla (laughing gull), *e.*
canus (common gull), *e. o.*
fuscus (lesser black-backed gull), *e.*
marinus (great black-backed gull), *e. o.*
tridactylus (kittiwake), *e. o.*
LESTRIS catarractes (common skua), *e.*
LIMOSA melanura (black-tailed godwit), *e.*
rufa (bar-tailed godwit), *e.*
LOXIA curvirostra (cross-bill), *e. o.*
*pyrrhula (bullfinch), *e. o.*
MACHETES pugnax (ruff), *e.*
MERGUS albellus (smew), *e.*
merganser (goosander), *e.*
serrator (red-breasted mergansor), *e.*
MORMON fratercula (puffin), *e. o.*
MOTACILLA alba (white wagtail), *e.*
boarula (gray wagtail), *e. o.*
Yarrellii (pied wagtail), *e. o.*
MUSICAPA grisola (spotted flycatcher).
NUMENIUS arquata (curlew), *e. o.*
phæopus (whimbrel), *e. o.*
*NUCIFRAGA caryocatactes (nutcracker).
ŒDICNEMUS crepitans (stone curlew), *e.*
*ORIOLUS galbula (golden oriole), *e. o.*
PARUS ater (cole titmouse), *e.*
cœruleus (blue titmouse), *e. o.*
caudatus (long-tailed titmouse), *e. o.*
major (great titmouse), *o.*
PERDIX cinerea (partridge), *e.*
coturnix (quail), *e.*
PHALAROPUS platyrhynchus (grey phalarope).
PICUS major (spotted woodpecker), *e.*
minor (lesser spotted woodpecker), *e.*
*PLATALEA leucorodia (spoonbill), *e.*
PODICEPS auritus (cared grebe), *e.*
cornutus (slavonian grebe), *e.*
cristatus (great-crested grebe), *e.*
minor (Little grebe), *e.*
rubricollis (red-necked grebe), *e.*
PYRRHOCORAX graculus (chough), *e. o.*
RALLUS aquaticus (water rail), *e. o.*
*RECURVIROSTRA avocetta (avocet), *e.*
REGULUS cristatus (golden crested regulus), *e. o.*
SCOLOPAX gallinago (common snipe), *e.*
gallinula (jack snipe), *e. o.*
major (great snipe), *e. o.*
rusticola (woodcock), *e. o.*
*sabina (Sabine's snipe).
STERNA hirundo (common tern), *e.*
minuta (lesser tern), *e.*
STREPSILAS interpres (turnstone), *e.*
STRIX
*brachyotus (short-eared owl), *e. o.*
flammea (barn owl), *e. o.*
*myctea (snowy owl).
otus (long-eared owl), *e. o.*
*passerina (little owl).
*scops (scops-eared owl), *e.*
stridula (tawny owl), *e.*
STURNUS vulgaris (starling), *e. o.*
SULA bassana (gannet), *e.*
SYLVIA arundinacea (reed wren), *a. e. o.*
SYLVIA atricapilla (black cap), *e.*
cinerea (white throat), *e.*
curruca (lesser white throat), *e.*
luscinia (nightingale), *o.*
œnanthe (wheat ear), *e. o.*
phœnicurus (redstart), *e.*
rubecula (robin redbreast), *e. o.*
rubetra (whinchat), *e. o.*
rubicola (stonechat), *e. o.*
rufa (chiff-chaff), *e. o.*
suecica (blue-throated warbler), *i.*
*tithys (black redstart).
THALASSIDROMA Leachii (fork-tailed petrel), *e.*
pelagica (storm petrel), *o. o. u.*
TOTANUS calidris (redshank), *e.*
glareola (wood-sandpiper), *e.*
glottis (greenshank).
hypoleucos (common sandpiper), *e. o.*
macularius (spotted sandpiper), *e.*
TRINGA canutus (knot), *e.*
*minuta (little stint), *e.*
*platyrhyncha (broad-billed sandpiper), *e.*
TROGLODYTES europæus (wren), *e.*
TURDUS iliacus (redwing), *e. o.*
merula (blackbird), *e. o.*
musicus (song thrush), *e. o.*
pilaris (fieldfare), *e. o.*
torquatus (ring ouzel), *e. o.*
viscivorus (missel thrush), *e. o.*
UPUPA epops (hoopoe), *e. o.*
URIA alle (little auk), *e. o.*
troile (guillemot), *e. o.*
VANELLUS cristatus (lapwing), *e.*
melanogaster (gray plover), *e.*
YUNX torquilla (wryneck), *e. o.*

This list of birds is very remarkable. It includes no less than one hundred and ninety-eight species (more than one-half the British list), almost all of which have been found in Guernsey. There cannot be a doubt that Jersey, being much larger and more wooded, must contain a number of warblers and other small birds that are not in the adjacent islands;* and probably Alderney may furnish additions to the water fowl. No satisfactory catalogue has, however, been obtained from either island. The number of birds in Sark permanently resident is small, but there are many occasional visitors.

It might have been expected, and it is certainly the case, that an unusual proportion of the species are water fowl. Five species of wild goose, sixteen species of wild duck, five of plover, six of gull, two of petrel, two of wild swan, five of grebe; besides puffins, cormorants, auks, and others,—all clearly indicate the island of Guernsey as a convenient resting place for birds who delight in storm, in wild, rugged cliffs, and in dashing waves. We have also the bitterns and herons, snipes and woodcocks, terns, and even the rare avocet as occasional, if not habitual visitors.

Besides these, however, there is a long and important list of birds of prey. Fifteen species of the genus *falco* exhibit a variety hardly to be expected. Seven species of owl, and seven of the genus *corvus* are described. The hoopoe has been taken in Guernsey, and is said to visit Alderney occasionally.

The cormorant and the gull are seen everywhere, especially in the breeding season. Rocks and headlands, called *Corbiéres*, and gull cliffs, are found in Jersey and Guernsey. The larger water birds are less common, and many of them only seen at long intervals.

Of song birds, the thrush and blackbird, the skylark, the linnet, the goldfinch, the chaffinch, and others, are common. The nightingale has not been certainly recognised in any other

* Among these the blue-throated warbler (*sylvia suecica*) may be named as a rare visitor.

island than Sark. The cuckoo comes as in England, about the middle of April, and is heard everywhere. The starling is a regular winter visitor. Swallows and martens appear as in England.

A steady and relentless war is waged by men and boys against the small birds, but in spite of every effort it is difficult to ripen cherries without protection; and even late peas can hardly be secured in some parts of the islands. These birds are certainly very mischievous, and often extremely bold.

Although the number of birds visiting the islands is so large, and song birds are by no means wanting, it is a fact that their songs are comparatively little heard. This arises partly from the incessant attacks of every boy and man who can procure a gun against all birds who approach nearly enough to be the subject of aim, and partly from the very great preponderance of the tribes not remarkable for their voices.

The catalogue of the Guernsey birds is the result of very careful enquiry and great local knowledge. It has been prepared by Mr. Gallienne, with some assistance from Mr. Lukis, the Rev. D. Dobree, and others. To the first named gentleman especially, acknowledgment is due, for the untiring perseverance with which he has followed to a result every particle of information that presented itself.

The following general remarks by Mr. Gallienne on the birds of Guernsey are of great interest, as illustrating points of local natural history:—

"The rook and jay are rarely seen here, although they are both indigenous to Jersey. The former bird has tried two or three times to colonize, but in vain, having been destroyed or frightened away. The jackdaw, which is a regular visitor to Alderney, is rarely seen in Guernsey. The swift appears here in very small numbers, but is abundant in Sark. The night jar breeds here; and I have obtained it both in summer and winter. The only gulls that breed in the islands are the herring gull,

lesser black-backed gull, and the great black-backed gull; all the other gulls are only autumn or winter visitors. The bullfinch occasionally breeds in Jersey, but is rarely seen in Guernsey. Although I have never heard of the eggs of either the curlew or whimbrel being found, I am satisfied they breed here (I think at Herm), as they stay with us throughout the year. The turnstone is found about the neighbourhood of Herm throughout the year. A few herons are also seen through the summer months on the rocks, near Herm. I have put the reed wren as doubtful for Guernsey, but I have seen a nest of this bird found at Alderney.

"The storm-petrel breeds in large numbers at Burhou—a few on other rocks near Alderney, and occasionally on the rocks near Herm. These are the only places in the Channel Islands where they breed, although seen and occasionally killed in all.

"This bird deposits its egg on the ground, in a rabbit burrow, or under large stones when it can find sufficient space to creep under. On the beach at Burhou it sometimes removes the loose stones, to the depth of one or two feet or more, managing to reach the soil before laying the egg.

"I do not think that the ease with which these birds are caught can be attributed to familiarity, but to the paralysis of fear. They are generally surprised in holes, under stones, &c., in situations from which it is difficult for them to escape by running, and still more so by flight, as from the length and formation of their wings they must have a run, if they rise on wing from a level surface."

"The wild duck formerly bred in Guernsey rather abundantly, but it seldom does so now. Last year a nest was found on one of the rocks near Herm. The razor bill and the guillemots breed on the Ortach Rock and on the cliffs at Alderney.

"The great northern, the black-throated, and the red-throated divers visit us regularly each winter, but our visitors are always young birds. I can only learn of one adult northern diver and

one adult black-throated diver having been taken in this island for the last fourteen years. I do not think an adult red-throated diver has ever been seen in the island.

"*Perdix rubra* (red-legged partridge) was formerly found in the Channel Islands, but is now extinct. It was last seen at Sark.

"The ring ouzel stays with us throughout the year, but, like the missel thrush in England, is more plentiful in winter than in summer."

Reptiles.

ANGUIS fragilis (slow worm), *e. i.*
BUFO vulgaris (toad), *i.*
LACERTA agilis (sand lizard), *i.*
LACERTA viridis (green lizard), *e. i.*
LISSOTRITON punctatus (water newt), *i.*
NATRIX torquata (ringed snake), *i.*
RANA temporaria (frog).

This list is probably complete, and, compared with the similar lists made out for other islands in the Atlantic, may be regarded as large. Most such tracts of land are almost deprived of animals of the class *reptilia*, owing probably to some widely acting natural cause. Guernsey, it will be seen, contains only the slow worm, the green lizard, and the frog; while in Alderney, Sark, and Herm, the frog is the sole representative. Jersey is the only island that contains the whole list.

With the exception of the toad, which grows to a remarkable size in Jersey, there is nothing to be remarked concerning these animals. The green lizard is very rare in England, but common in France, to which land, in a natural history sense, all the islands are of course most nearly related. The snake is not very common even in Jersey. The water newt and the sand lizard are also comparatively rare, and are limited to certain districts in that island.

Fishes.

ACANTHIAS vulgaris (picked dog-fish), scorpius.
ALOPECIAS vulpes.
ALOSA finta (shad).
AMMODYTES lancea (sand-lance). Tobianus (sand-eel).
AMPHIOXUS lanceolatus (lancelet) (1).
ANGUILLA acuti-rostris (sharp-nosed eel). latirostris (golden eel—silver eel). medii-rostris (suig), *a.* vulgaris (common eel).
ATHERINA presbyter (sand-smelt—*roselet*).
BELONE vulgaris (gar-fish—*horfit*).
BLENNIUS cornutus, gattorugine (gattorugginous blenny), gunnellus, pholis (shanny), (Zoarcus) viviparus (viviparous blenny).
CALLIONYMUS dracunculus (white chabot). lyra (gemmeous dragonet).
CANTHARUS griseus (black bream).
CARANX trachurus (horse mackerel—*hors macré*).
CARCHARIAS glaucus (blue shark).
CHRYSOPHRYS aurata (gilt head).
CLUPEA harengus (herring—*heren*), pilchardus (pilchard), sprattus (sprat).
CONGER vulgaris (conger eel).
COTTUS bubalis (father lasher—*çabot*), scorpio (sea scorpion).
CRENILABRUS cornubicus, exoletus, melops (gilt head), norwegicus (corkling).
CYCLOPTERIS lepidogastor (jura-sucker), lumpus (lump-sucker).
† CYPRINUS gibbus (carp).
? ENGRAULIS encrasicholus.
EPINEPHILUS sp.
GALEUS glaucus, vulgaris (common tope).
GASTEROSTEUS leiurus (smooth-tailed stickleback). spinachia (fifteen-spined stickleback), trachurus (three-spined stickleback),
GOBIUS bipunctatus, niger (black goby), unipunctatus.
? HARENGULA latulus.
HIPPOCAMPUS brevirostris (sea horse).
LABRAX lupus (basse—*bars*).
LABRUS bergylta, carneus (*la reine d'eau*), lineatus (cuckoo fish), maculatus (ballan wrasse—*vraic*), mixtus, variegatus (*bleu vraic*).
LEPIDOGASTER cornubiensis (Cornish sucker).
LEPIDOPUS argyreus (scabbard fish).
LOPHIUS piscatorius (fishing frog).
LOTA molva (ling).
MERLANGUS carbonarius (coal fish—*mutan*). pollachius (pollack—whiting pollack). vulgaris (whiting).
MERLUCIUS vulgaris (hake).
MORRHUA æglefinus (haddock). lusca (bib pout) minuta (white eye—*clairion*). vulgaris (cod).
MOTELLA cimbria. glauca (mackarel midge). quinquecirrata (five bearded rockling). vulgaris (sea loach).
MUGIL capito (grey mullet—*gris mulet*).
MULLUS surmuletus (striped red mullet—*rouge mulet*).
MUSTELA lævis (smooth hound).
NAUCRATES ductor (pilot fish).
ORTHAGORISCUS mola (short sun fish).
PAGELLUS centrodontus (sea bream). erythrinus (Spanish bream—*sarde*).
PETROMYZON marinus (lamprey).
PHYCIS furcatus.
PLATESSA flesus (flounder), limanda (dab). microcephalus (smooth dab—lemon dab). vulgaris (plaice).
PSETTA maxima. rhombus.
RAIA batis (common skate). chagrinea. clavata (thornback). maculata (spotted or homelyn ray). marginata. mucronata (long nosed skate), oxyrhyncha (sharp nosed ray).
RANICEPS trifurcatus (tadpole fish).
RHOMBUS arnoglossus *megrim—smooth sole*). hirtus (Müller's top knot). maximus (turbot).

RHOMBUS megastoma vulgaris (brill).
SALMO salar (salmon).
SCIAENA aquila (*maigre*).
SCOMBER maculatus (Spanish mackarel).
scomber (mackarel—*macré*).
SCYLLIUM canicula (small spotted dog fish).
catulus (large spotted dog fish).
melanostomum (black mouthed dog fish).
SERRANUS Couchii ? (2)
SOLEA
pegusa (lemon sole).
SOLEA vulgaris (sole).
SPINAX acanthias (hoe).
SQUATINA
angelus (angel fish).
SYNGNATHUS
acus (great pipe fish).
æquoreus (equoreal pipe fish—*onvé*).
lumbriciformis (worm pipe fish).
ophidium.
typhle.
THYNNUS
pelamys (bonito).
vulgaris (tunny).
TORPEDO
vulgaris (electric ray).
TRACHINUS draco (great weever—*La vive*).
vipera (lesser weever).
TRIGLA Blochii.
cuculus (red gurnard—*rouge grounar*).
gurnardus (grey gurnard).
hirundo (sapphirine gurnard—*coucou*).
lineata.
TRYGON
pastinaca.
XIPHIAS
gladius (sword-fish).
ZEUS faber (John Dory—*dorée*).

N.B. In the above catalogue, the local names of species, where characteristic, are printed in italics.

Notes, by F. C. Lukis, Esq.

(1) *Amphioxus lanceolatus*, Yarrell. (Lancelet.) "This extremely delicate fish is not rare on the shores of the island of Sark and Herm, although difficult to catch, from the rapidity of their motions. One sent to Mr. Yarrell appeared unusually large; for, in a letter to me, he says, 'Your specimen would seem to be a very large one. I am sorry we have not more decided specific distinctions of the larger examples, seen on the southern shores of the Mediterranean. My drawing at page 468, Vol. II., of my British Fishes, was taken from a specimen which had been preserved in spirits two or three years, so that the delicate membranous fins were shrunk and indurated.' This will account for the want of the dorsal fin in the drawing referred to."—F. L.

(2) *Serranus Couchii*. Yarrell. "This fish is introduced because of its close resemblance to a serranus taken on our coast on the 9th December, 1841, a careful drawing of which was sent to Mr. Yarrell in February, 1842; believing that, from his remark at page 13 of his Vol. I., British Fishes, he did not quite venture to decide on the statement then before him. In his letter to me on the subject, he says: 'I have not been able yet to find out your fish. The nearest to it is one I have found as discovered at Madeira, but it differs a little from yours, in having a single row of minute teeth in each jaw.'"—F. L.

[The following are the characters of this species, as given by Mr. Lukis:—head round, nose blunt, eyes deep black, iris white, lower part of opercule somewhat toothed; Colour—dark lead grey; pectoral fin 18 or 19 rays; ventral 5, one spine; anal 17, three spines; dorsal 18 to 20; soft ditto 8 spines; caudal 24 rays, forked.]

This valuable and extended catalogue of fishes has been chiefly prepared by F. Lukis, Esq., of Guernsey, who has long studied and made careful drawings of such species as could be found. It has not been thought advisable to specify the islands near which they were obtained, as the surrounding seas can only be regarded as one ichthyological province. A few species are doubtful, and one or two have been introduced into fresh water ponds. Some species, also, are rare visitors.

The extraordinary variety of the fish that occasionally visit the Channel Islands is readily accounted for by the position of these islands and the adjacent land. Warm sea fishes come in from the Atlantic, and occasionally meet Arctic species coming down through the German Ocean. Fishes, generally found only in deeper water, are brought within observation on rising into these shallower seas; while the mixture of large areas of rocky bottom with occasional sands, the enormous abundance of sea-weed, and the great range of the tide, are causes eminently favourable for bringing fish within human range.

Guernsey being the outlying island, is naturally and necessarily the best adapted for fishing; and the coast being provided with numerous little sheltered nooks and coves, the inhabitants are enabled to carry on their operations near home. The shoals and rocks, which have been already described, are admirable localities, to which the fishermen resort with every chance of success whenever the weather is moderate enough to allow of a near approach with safety.

The fishes most commonly brought into market in Guernsey are the rock-fish (wrasse or *vraic*-fish,—a fish feeding on and amongst sea-weed or vraic), and the conger (*conger vulgaris*). Next to these in abundance are the whiting pollack (*merlangus pollachius*), and the gar-fish or green bone (*belone vulgaris*). The ray is taken largely for bait, and is also sold for human food.

Of the fishes just named, those called rock-fish include several species of *labrus*. They exhibit great varieties of colour, and

are often extremely beautiful; but they are coarse food, and not much valued. The conger is eaten largely by the islanders, but is not valued by strangers. Monstrous fish, weighing eighty or ninety pounds, are sometimes caught. The whiting pollack is a delicate fish, often as large as a cod; but less apt to be woolly, and when properly cooked, is excellent. It does not resemble the whiting so commonly eaten in England, and is not often exported. The gar-fish is very abundant, and is good, but dry. It is remarkable for the green colour of the bones.

The turbot, brill, and some allied species, are incredibly abundant at certain seasons, but the banks to which these fish resort have been less productive during the past two seasons (1860-61). It is believed, that the turbot caught near the islands is not equal to the best that comes to the London market. The sole is not common, though large individuals are often taken. Plaice is very abundant.

Among the more valuable fish, red and grey mullet, and John Dory must be named first. They are frequently obtained in large quantity, and of good size. They are excellent, and till lately, when the best fish has been uniformly exported to England, could be obtained very cheaply. The roselet (*atherina presbyter*), a kind of smelt, is abundant and delicious. Mackarel is not uncommon in the season. Cod is often caught, and is excellent, although a prejudice exists that it is not equal to that found on English coasts. Basse is common, but not very good.

The lançon, or sand-eel (*ammodytes tobianus*) is a delicate little morsel, and is obtained from the sands in some of the bays of Jersey, Guernsey, and Herm, on moonlight nights in autumn. At such time the sands are almost alive with them, and they may be caught by the hand, after turning up the sand with a fork. Sand-eeling at midnight in September, is one of the amusements of all classes.

The gurnard and loach are often plentiful, but are not much valued. The horse-mackarel also is considered poor and dry.

The sea-bream and the ling are taken and used as food, but are little valued.

Of rarer fish the bonito and the tunny are seen in the market from time to time, and even the salmon is an occasional visitor. The hake, the haddock, and the pilchard, are caught, and possibly, but not certainly, the sprat.

Of fish not eaten, the sword-fish, the sun-fish, and the angel-fish, are the most remarkable among large species, and the curious little sea horse (*hippocampus brevirostris*), among the smaller. The latter is rare; but several individuals have been taken, and kept alive for some time in tanks. The lamprey (*petromyzon marinus*), the blue shark (*carcharias glaucus*), and some other rare visitors, are added on the authority of Mr. May, as found in the seas around Alderney.

The principal fresh water fish are the eel and the stickleback. The carp has been introduced. A somewhat remarkable natural stew or pond exists in Jersey, in the manor of St. Ouen, in which these and other fresh water fish are cultivated to advantage.

A similar pond, but of brackish water, exists in the Braye du Valle in Guernsey (near the Vale church). This latter is nearly five acres in area, and is near the shore, the salt water entering at will by a flood gate. Fine fresh water eels abound, and are accompanied by grey mullet, turbot, flounders, and plaice. The fish are fed by shrimps (*palæmon varians* and *mysis vulgaris*), which literally swarm. In this pond there are reeds; and a species of pisidia (a fresh water shell) abounds at one extremity, while living sea-weeds, shore shells, (*syndosmya tenuis*, three species of *rissoa*, viz., *r. ulvæ*, *r. labiosa*, *r. ventrosa*, numerous varieties of these species, and *convolvulus bidentatus*), at the other. *Actiniæ* are living in the deeper parts of the pond. There is another spot near the Grève de Lecq in Jersey, where fresh and salt water fish alternate in a canal.

We proceed now to the consideration of animals not possessed of a bony articulated skeleton, and for that reason called INVERTEBRATA. They form several natural groups of great importance, the principal being the *mollusca* or soft animals, many of them defended by shells; the *polyzoa* or *bryozoa;* the *insecta* or insects; the spiders; the *crustacea* or animals like the lobster or shrimp, having a calcareous or horny covering; the *annelida* or worms; the *radiata,* of which star fishes are a good illustration; the *acalephæ* or sea nettles; the *zoophytes,* of which the sea anemones and corallines are instances; and the sponges. Each of these in turn will be briefly noticed.

MOLLUSCA.

Of this large section there are many groups, which it will be convenient to consider separately. We commence with those which, in their structure and intelligence, most nearly approach the fishes. The number of species is small, but the list is interesting.

Cephalopoda.

(Cuttle-fish and Squids.)

LOLIGO vulgaris.
OCTOPUS
vulgaris (poulpe).
SEPIA bisserialis.
officinalis (cuttle-fish).
SEPIOLA atlantica.

The shell or skeleton of the cuttle-fish is exceedingly common on many shores of all the islands, and the animal is often taken. It is used, however, only as bait. Mr. Alder mentions having seen a small *octopus* among the rocks at St. Peter's Port, in Guernsey, which he thinks distinct from *o. vulgaris,* but it has not been described.

This and the two next lists of species of mollusca are contributed by Dr. Lukis, who, with Mr. Jeffreys, has studied the conchology of Guernsey very completely. The lists are probably nearly complete for Guernsey.

Marine Univalves and Multivalves.

ACLIS supranitida, *e. u.*
ACMEA virginea, *e.*
ADEORBIS subcarinata, *e.*
AKERA bullata, *e.*
hydatis, *e.*
ASSIMINEA littorea, *e. o.*
BUCCINUM undatum, *e.*
CALYPTRÆA sinensis, *e.*
CERITHIOPSIS
tuberculare, *e. i. o. u.*
CERITHIUM adversum, *e.*
metaxa, *e. u.*
reticulatum, *e.*
CHEMNITZIA
elegantissima, *e.*
var. gracilis, *e.*
pusilla, *e.*
indistincta, *e. o. u.*
scalaris, *e. i. o. u.*
CHITON asellus, *e.*
cancellatus, *e.*
cinereus, *e.*
discrepans, *e. o. u.*
fascicularis, *e.*
lævis, *e.*
CŒCUM glabrum, *e. o. u.*
CYLICHNA cylindracea, *u.*
mammillata, *e. o. u.*
obtusa, *e. u.*
strigella? *e.*
truncata, *e. u.*
umbilicata, *e.*
CYPRÆA europæa, *e.*
DENTALIUM
tarentinum, *e.*
EMARGINULA reticulata, *e*
EULIMA bilineata, *e. i. o. u.*
distorta, *e. i. o. u.*
var. gracilis, *e.*
polita, *e.*
var. nitida, *e.*
subulata, *e. i. o. u.*
EULIMELLA affinis, *e.*
FISSURELLA reticulata, *e.*
FUSUS islandicus, *u.*
HALIOTIS tuberculata, *e.*
IANTHINA communis, *e.*
JEFFREYSIA
diaphana, *e. o. u*
opalina, *e. u.*
LACHESIS minima, *e. o. u.*
LACUNA pallidula, *e.*
var. patula, *e.*
LACUNA puteolus, *e.*
vincta, *e.*
var. bifasciata, *e.*
canalis, *e.*
labiosa, *e.*
quadrifasciata, *e*
LAMELLARIA
perspicua, *e. i. o. u.*
tentaculata, *e. i. o. u.*
LITTORINA littoralis, *e.*
littorea, *e.*
neritoides, *e.*
patula, *e.*
rudis, *e.*
var. nigrolineata, *e.*
zonaria, *e.*
saxatilis, *e.*
tenebrosa, *e.*
var. intermedia, *e.*
jugosa, *e.*
MANGELIA costata, *e. u.*
var. coarctata, *e.*
Metcalfei, *e.*
gracilis, *e.*
Levfroyi, *e.*?
linearis, *e. u.*
var. intermedia, *e.*
pallida, *e.*
scabra, *e.*
nebula, *e. u.*
var. lævigata, *e.*
pyramidata, *e.*
purpurea, *e. u.*
var. asperrima, *e.*
striolata, *e. u.*
MARGINELLA lævis, *e. u.*
MUREX corallinus, *e. i. o. u.*
erinaceus, *e.*
NASSA incrassata, *e.*
pygmæa, *e.*
reticulata, *e.*
NATICA helicoides, *e.*?
monilifera, *e. i. o. u.*
nitida, *e. u.*
ODOSTOMIA conoidea, *e.*
conspicua, *e. o. u.*
cylindrica, *e. u.*
dolioformis, *e.*
eulimoides, *e. o. u.*
excavata, *e. u.*
interstincta, *e. u.*
Lukisii, *e. o. u.*
obliqua, *e.*
ODOSTOMIA plicata, *e. o. u.*
rissoides, *e. u.*
var. albella, *e.*
truncatula, *e. u.*
unidentata, *a.*
var. turrita, *e.*
OTINA otis, *e. o. u.*
OVULA patula, *e. o. u.*
PATELLA
athletica.
pellucida, *e.*
var. lævis, *e.*
vulgata.
PHASIANELLA pullus, *e.*
PHILINE aperta, *e.*
catena, *e.*
scabra, *e.*
PILEOPSIS hungaricus, *e.*
PURPURA lapillus, *i.*
RISSOA Beanii, *e. o. u.*
calathus, *e. i. u.*
cingillus, *e. i. o. u.*
var. graphica, *e.*
rupestris, *e.*
costata, *e.*
costulata, *e.*
crenulata, *e.*
fulgida, *e. i. o. u.*
inconspicua, *e. i. o. u.*
labiosa, *e. i. o. u.*
lactea, *e. i. u.*
parva, *e.*
var. interrupta, *e.*
pulcherrima, *e. i. o. u.*
rubra, *e. i. o. u.*
var. unifasciata, *e.*
semistriata, *e. i. o. u.*
striata, *e.*
striatula, *e. i. u.*
ulvæ, *e. o. u.*
var. stagnalis, *e.*
Barleei, *e.*
ventrosa, *e. i. o. u.*
var. muriatica, *e,*
zetlandica, *e. i. o. u.*
SCALARIA clathratula, *e.*
communis, *e. o. u.*
Turtonis, *e. u.*
SCAPHANDER
lignarius, *e. i. o. u.*
SKENEA nitidissima, *e.*
planorbis, *e.*
rota, *e.*

SPIRIALIS Jeffreysii, *e.*
TORNATELLA
fasciata, *e. u.*
TRITON cutaceus, *e.*
nodiferus, *e.*
TROCHUS
cinerarius, *e.*
exiguus, *e.*
granulatus, *e.*
TROCHUS
lineatus, *e.*
magus, var., *e.*
Montagùi, *e.?*
striatus, *e.*
tumidus, *e.*
var. trochiformis, *e.*
umbilicatus, *e.*
TROCHUS zizyphinus.
var. albidus, *e.*
lævis, *e.*
Lyonsii, *e.*
TROPHON
muricatus, *e. i. o. u.*
TRUNCATELLA
Montagui, *e.*
VELUTINA lævigata, *e. u.*

Land and fresh water Univalves.

(Snails, Slugs, and Water-snails.)

ACHATINA acicula, *e.*
ANCYLUS fluviatilis, *e. o.*
oblongus, *e. i.*
ARION empiricorum, *e.i.o.*
hortensis, *e. i. o.*
BALIA fragilis, *e. i.*
BULIMUS acutus, *e.*
CARYCHIUM minimum, *e.*
CLAUSILIA nigricans, *e.*
CONOVULUS
bidentatus, *e. i. o. u.*
denticulatus, *e. i. o. u.*
var. myosotis, *e.*
ringens, *e.*
CYCLOSTOMA elegans, *a.?*
HELIX
aculeata, *e.*
aspersa, *e o.*
caperata, *e. i. o. u.*
HELIX cellarius, *e. i.*
hispida, *e. o.*
nemoralis, *e. o.*
var. hortensis, *e.*
pisana, *i.*
pulchella, *e. i. o.*
radiata, *i. o.*
revelata, *e. o.*
rotundata, *e. i.*
virgata, *e. o.*
var. alba, *e.*
LIMAX
agrestis, *e. i. o. u.*
arborum, *e. i. o.*
cinereus, *e. i. u.*
flavus, *e. i.*
Sowerbii, *e. i.*
LIMNEUS glaber, *e.*
palustris, *e. o.*
LIMNEUS pereger, *e.*
truncatulus, *e.*
PHYSA hypnorum, *a. e. i.*
PLANORBIS lacustris, *e. i.*
nautileus, *e. i.*
spirorbis, *e. o.*
PUPA anglica, *e.*
muscorum, *e. i. o.*
pygmea, *e. i.*
umbilicata, *e. o.*
SUCCINEA putris, *e.*
TESTACELLA haliotoidea, *e*
VITRINA pellucida, *e. i. o.*
ZONITES alliarius, *e.i.o.u.*
cellarius, *e. i. o. u.*
crystallinus, *e. i. o. u.*
nitidulus, *e. i. o.*
nitidus, *e.*
ZUA lubrica, *e. o.*

Mollusca Nudibranchiata.

(Sea Slugs.)

ANCULA cristata, *e. o.*
DENDRONOTUS
arborescens, *e. o.*
DORIS diaphana, *e.*
pilosa, *e. o.*
proxima, *e. o.*
pusilla, *e. o.*
sparsa, *e. o.*
tuberculata, *e.*
DOTO fragilis, *e.*
pinnatifida, *e.*
ELYSIA viridis, *e. o.*
EOLIS coronata, *e.*
Drummondi, *e.*
glaucoides, *u.*
Landsburgii, *e.*
papillosa, *e. o.*
smaragdina, *e.*
GONIODORIS nodosa, *e. o.*
HERMÆA bifida, *e. o.*
IDALIA
elegans, *e.*
RUNCINA Hancocki, *e. o.*
TRIOPA claviger, *e. o.*
TRITONIA lineata, *e. o.*
plebia, *o.*

APLYSIA
hybrida, *e. o.*
PLEUROBRANCHUS
membranaceus, *e.*
plumula, *e. o.*
SPIRULA Peronii, *e.*

Bivalve Shells.

ANOMIA aculeata, *e. u.*
var. striolata, *e.*
ephippium, *e.*
patelliformis, *e.*
ARCA lactea, *e.*
tetragona, *e.*
ARGIOPE cistellula, *e. u.*
detruncata, *e.*
ARTEMIS exoleta, *e. i. u.*
lincta, *e. u.*
ASTARTE
triangularis, *a. e. i. u.*
AVICULA tarentina, *e. u.*
CARDIUM
aculeatum, *e. i. u.*
echinatum, *e. i. u.*
edule, *a. e. i. o.*
fasciatum, *e. i. o. u.*
nodosum, *e. i. o. u.*
norvegicum, *e.*
papillosum, *e. u.*
pygmæum, *e. u.*
rusticum, *e. i. u.*
CIRCE minima, *e.*
CORBULA nucleus, *u.*
CRENELLA discors, *e.*
marmorata, *e.*
rhombea, *e. u.*
CYCLAS cornea, *e.*
CYPRINA islandica, *u.*
CYTHEREA chione, *e. o. u.*
DIPLODONTA
rotundata, *e. u.*
DONAX anatinus, *e. u.*
var. magna, *e.*
politus, *e. u.*
GALEOMMA Turtoni, *e. u.*
GASTROCHÆNA
modiolina, *e. i. o. u.*
KELLIA nitida, *e.*
rubra, *e.*
suborbicularis, *e.*
LEPTON Clarkiæ, *e.*
convexum, *e.*
squamosum, *e.*
sulcatulum, *e.*
LIMA hians, *e.*
Loscombii, *e. u.*
subauriculata, *e. u.*
LUCINA borealis, *e. i. u.*
flexuosa, *e. u.*
leucoma, *e. i. o. u.*
LUTRARIA elliptica, *e.*
oblonga, *e. i. u.*
LYONSIA norvegica, *e. u.*
MACTRA elliptica, *e. i.*
helvacea, *i. u.*
solida, *e. i. o. u.*
stultorum, *e. u.*
var. cinerea, *e.*
subtruncata, *e. u.*
truncata, *e. u.*
MODIOLA barbata, *e.*
modiolus, *e.*
phaseolina, *e. u.*
tulipa, *e. o. u.*
var. magna, *e.*
MONTACUTA bidentata, *e.?*
ferruginosa, *e.*
substriata, *e. o. u.*
MYA truncata, *u.*
MYTILUS edulis, *e.*
galloprovincialis, *e. o. u.*
ungulatus, *e. o. u.*
NUCULA nucleus, *e.*
radiata, *e. o. u.*
OSTREA edulis, *e.*
PANDORA obtusa, *e. i. u.*
rostrata, *e. i. u.*
PECTEN furtivus, *e.*
maximus, *e.*
opercularis, *e.*
var. lineatus, *e.*
pusio, *e.*
tigrinus, *e. o. u.*
var. obsoletus, *e.*
varius, *e.*
PECTUNCULUS
glycimeris. *e.*
var. nummarius, *e. o. u.*
PHOLAS candida, *e.*
dactylus, *e. u.*
parva, *e.*
PINNA pectinata, *u.*
PISIDIUM pulchellum, *e.*
pusillum, *e.*
roseum, *e.*
PSAMMOBIA
costulata, *e. u.*
Ferröensis, *e.*
tellinella, *a. e. i. u.*
PSAMMOBIA
vespertina. *e.*
SAXICAVA arctica, *e.*
rugosa, *e.*
SOLECURTUS candidus, *e. u.*
SOLEN ensis, *e. i. u.*
var. magna, *e.*
marginatus, *e.*
pellucidus, *e. i. u.*
siliqua, *e. i.*
SPHÆNIA
Binghami, *e. i. o. u.*
SPHÆRIUM
caliculatum, *e.*
SYNDOSMYA alba, *e.*
intermedia, *e. u.*
prismatica, *e. u.*
tenuis, *e.*
TAPES aurea, *e. i. o. u.*
decussata, *e. i. u.*
pullastra, *e.*
virginea, *e.*
var. sarniensis, *e.*
TELLINA
crassa, *a. e. i. u.*
donacina, *e. i. u.*
fabula, *e. i.*
incarnata, *e. i. u.*
pygmæa, *u.*
solidula, *e. i. u.*
tenuis, *e. i.*
TEREBRATULA capsula, *e.*
TEREDO bipennata, *e.*
cucullata, *e.*
excavata, *e.*
malleolus, *e.*
megotara, *e.*
nana, *e.*
norvegica, *a. e. o.*
palmulata, *e.*
pedicellata, *e.*
subericola, *e.*
THRACIA distorta, *e. i. u.*
phaseolina, *e.*
villosiuscula, *e. u.*
TURTONIA minuta, *e.*
VENERUPIS irus, *e. u.*
VENUS casina, *e. i. u.*
var. reflexa, *e.*
fasciata, *e. i. u.*
ovata, *e.*
striatula, *e. i. u.*
var. gallina, *e.*
verrucosa, *e. i. o. u.*

The most remarkable, perhaps, of the shell-bearing molluscs around the Channel Islands are those whose habit leads them to bore into wood. Of these (the *Teredinæ*), there are no less than five species in the preceding list of Teredo not in the British catalogue. Four of them have been found in drift timber, and may have come from great distances, as the tides and currents not unfrequently land floating wood on the coast. All but one of the British species have been seen in Guernsey, besides the five that are new.

Of the univalves, there are two new tritons, and one or two smaller shells. Of bivalves, in addition to the boring shells, there are many that are remarkable. Besides one of the five British brachiopoda, there are two additional species. There are two new mussels, one new cockle (*cardium papillosum*), and some others. No important genus is absent, and most of the genera are largely represented. For this list, as well as that of the univalves, the reader is indebted to Dr. Lukis, who has a very complete collection of island species.

The list of nudibranchiate molluscs, or sea slugs, is very valuable. To Mr. Alder, of Newcastle, Mrs. Collings, of Sark, and Mr. P. Le Lievre, of Guernsey, is due the credit of obtaining a knowledge of so many species. They are all wonderfully beautiful and extremely curious. The backs of these little slugs are fringed with branching gills, of enormous size compared with the animal, and generally coloured with intense brilliancy. They hide among sea-weed, and seem to have the power of assimilating themselves in some measure to the colours of the sea-weed they inhabit. They are not, however, difficult to discover, and can be kept easily in the aquarium. Some of the species are not at present known out of Guernsey.

There is little doubt that a careful examination would soon discover additional species of these creatures; and they probably inhabit the rock pools and sea-weed around all the islands.

Tunicated Molluscs.

AMOROUCIUM argus, *e.*
Nordmanni, *e.*
proliferum, *e.*
APLIDIUM fallax, *e.*
ficus, *e.*
nutans, *e.*
ASCIDEA aculeata, *e.*
intestinalis. *e.*
mentula.
plana.
pulchella, *e.*
scabra, *e.*
virginea.
BOTRYLLOIDES
albicans, *e.*
pusilla, *e.*
rubrum, *e.*
BOTRYLLOIDES sparsa, *e.*
BOTRYLLUS
bivittaceus, *e.*
rubrum, *e.*
smaragdus, *e.*
violaceus, *e.*
CLAVELLINA
lepadiformis, *e. u.*
CYNTHIA aggregata, *e.*
claudicans, *e.*
granulata, *e.*
grossulacea, *e. i.*
humilis, *e.*
limacina, *e.*
morus, *e.*
squamulosa, *e.*
tesselata, *e*
CYNTHIA tuberosa, *e.*
DIAZONA hebridica, *e.*
DISTOMA rubra, *e.*
vitreum, *e. o.*
LEPTOCLINUM
asperum, *e.*
fulgens, *e.*
gelatinosum, *e.*
Lesterianum, *e.*
maculosum, *e.*
punctatum, *e.*
MOLGULA oculata, *e.*
PARASCIDEA Forbesii, *e.*
PEROPHORA Listeri, *e.*
POLYCLINUM
aurantium, *e.*
THYLACIUM Normani, *o.*

For this list of a group of animals, rarely examined, except by the professed naturalist, although at all times remarkable for the structure and habits, the reader is indebted to Mr. Alder, of Newcastle, and Mrs. Collings, of Sark. Many of the species are not yet described or named in any published work; but an account of the British Museum specimens is in course of publication by Mr. Alder, which will include them.

Although most of the species observed are from Guernsey, there is no reason to doubt that they exist in the neighbouring seas, and would be found near all the islands.

The very remarkable animals belonging to the class *Polyzoa* or *Bryozoa,* are so like sea-weeds in their general appearance, that by persons uninstructed in the details of natural history, they would certainly be mistaken for them. They often coat the surface of sea-weed and shells, but they can only be studied under the microscope. They are wonderfully simple, and yet have the basis of a system of great complication. The animals live in groups, each having its own cell, and this cell may be either horny or membranous, or sunk in a common fleshy or cartilaginous mass. The cells are arranged in the most picturesque

and varied manner, sometimes shrub-like (*crisia* and *cellularia*), or in broad, flat leaves (*flustra*), sometimes in wart-like lumps (*tubulipora*), or broad, flat patches (*lepralia*), or within solid stony walls (*eschara*). Each individual has a mouth surrounded with tentacles, and leading into a gullet, from which the food is conveyed through a muscular gizzard into a digesting stomach; but a number of individuals always connect themselves into one compound animal life.

Polyzoa.

ÆTEA anguina, *e. o.*
spatulata, *e. o.*
ALECTO dilatans, *o.*
granulata, *o.*
AMATHEA lendigera, *e. o.*
BEANIA mirabilis, *o.*
BICELLARIA ciliata, *e. o.*
BOWERBANKIA
imbricata, *e. o.*
BUGULA avicularia, *e. o.*
flabellata, *o.*
plumosa, *o.*
turbinata, *u.*
CABEREA Boryi, *e. o.*
Hookeri, *e. o.*
CANDA reptans, *e. o.*
CELLEPORA Hassalii, *e. o.*
pumicosa, *e.*
CRISIA denticulata, *e. o.*
eburnea, *e. o.*
CRISIDIA cornuta, *e.*
setacea, *e.*
CYCLOUM papillosum, *e.o.*
DIASTOPORA obelia, *e. o.*
ESCHARA foliacea, *e. o.*
EUCRATIA chelata, *e. o.*
FLUSTRA circularia, *e. o.*
foliacea, *e. o.*
HIPPOTHOA
catenularia, *e. o.*
divaricata, *o.*
LEPRALIA ansata, *o.*
Brongniartii, *o.*
ciliata, *o.*
coccinea, *o.*
figularis, *o.*
hyalina, *o.*
innominata, *o.*
linearis, *o.*
nitida, *o.*
Peachii, *o.*
pertusa, *o.*
reticulata, *o.*
semilunaris, *o.*
spinifera, *o.*
tenuis, *o.*
variolosa, *o.*
verrucosa, *o.*
MEMBRANIPORA
membranacea, *o.*
MEMBRANIPORA
pilosa, *i. o.*
Rossellii, *o.*
MENIPEA ternata, *e.*
PUSTULIPORA deflexa, *o.*
proboscidea, *o.*
RETEPORA Beaniana, *e.*
reticulata, *e.*
SALICORNARIA
farciminoides, *e. o.*
sinuosa, *e.*
SARCOCHITUM
polyoum, *e.*
SCRUPOCELLARIA
scrupea, *o.*
scruposa, *o.*
SPHENOTROCHUS
Wrightii, *e.*
TUBULIPORA hispida, *o.*
patina, *e. o.*
pennicillata, *o.*
phalangea, *o.*
serpens, *o.*
VESICULARIA
spinosa, *e.*

These anomalous forms of organic life are very common on all sea shores, and especially so in the Channel Islands. The Guernsey species have been communicated partly by Mr. P. Le Lievre and his sisters, and partly by Mrs. Collings,—the Sark species entirely by Mrs. Collings.

Remains of animals of this kind are not unfrequently found in a fossil state (though not within the Channel Islands), and the study of the animals and their habits would, no doubt, be amply repaid by interesting discoveries.

INSECTA.

Coleopterous Insects.

(Beetles.)

ABAX striola, *i.*
ABRÆUS minutus, *e.*
ACILIUS sulcatus, *e. i.*
ADRASTUS acuminatus, *e.*
limbatus, *e.*
ÆGIALIA globosa, *e.*
AGABUS bipunctatus, *i.*
bonitæ, *i.*
AGATHIDIUM nigrinum, *e.*
AGONUM læve, *e.*
marginatum, *e.*
parumpunctatum, *e.*
piceum, *e.*
picipes, *e.*
pusillum, *e.*
6 punctatum, *e.*
viduum, *e.*
AGRIOTES lineatus, *e. i.*
obscurus. *e.*
pilosus, *e.*
sputator, *e.*
AGRYPNUS murinus, *e.*
ALEOCHARA cursitor, *e.*
dorsalis, *e.*
fumata, *e.*
fuscipes, *e.*
ALOPHUS 3 guttatus, *e.*
AMARA communis, *e. i.*
cursor, *e.*
lævis, *e.*
obsoleta, *e.*
similata, *e. i.*
tibialis, *e. i.*
trivialis, *e. i.*
ANCHOMENUS albipes, *e.*
prasinus, *e.*
ANCYLOCHEIRA rustica, *i.*
ANISODACTYLUS
binotatus, *e. i.*
ANOBIUM molle, *e.*
paniceum, *e.*
striatum, *e. i.*
tessellatum, *e. i.*
ANOMALA Frischii, *i.*
ANOMMATUS obsoletus, *e.*
ANTHICUS ater, *e.*
equestris, *e.*
fuscus, *e.*
ANTHONOMUS
pomorum, *e.*
APHODIUS ater, *e. i.*
contaminatus, *e. i.*
erraticus, *e. i.*
fimetarius, *e. i.*
fossor, *e. i.*
granarius, *e.*
granum, *e.*
inquinatus, *e.*
lividus, *e.*
luridus, *e.*
melanopus, *e.*
melanostictus, *i.*
merdarius, *e.*
nigripes, *e.*
punctato sulcatus, *i.*
rufescens, *e.*
rufipes, *e.*
scybalarius, *e,*
sordidus, *e.*
sus, *e.*
testudinarius, *e.*
APHTHONA atrocœrulea, *e.*
cœrulea, *e.*
cyparissæ, *e.*
APION æneum, *e.*
æstivum, *e.*
assimile, *e.*
flavipes, *e.*
frumentarium, *e.*
hæmatodes, *e.*
humuli, *i.*
hydrolapathi, *i.*
minimum, *e.*
nigritarsis, *e.*
pallipes, *e.*
rufirostri, *e.*
rumicis, *e.*
viciæ, *e.*
ARGUTOR erythropus, *e.*
inæqualis, *e.*
rufomarginatus, *e.*
ASTENUS angustatus, *e.*
brunnens, *e.*
ASTILBUS canaliculatus, *e.*
ASTYNOMUS ædilis, *e.*
ATHOUS angularis, *e.*
hæmorrhoidalis, *e. i.*
longicollis, *e.*
AUTALIA impressa, *e.*
rivularis, *e.*
BADISTER bipustulatus, *e.*
suturalis, *e.*
BEMBIDIUM flavipes, *e.*
BEROSUS luridus, *e.*
BIPHYLLUS lunatus, *e.*
BLAPS mortisaga, *e. i.*
BLEDIUS tricornis, *e.*
BLETHISA multipunctata, *i.*
BOLITOBIUS atricapillus, *e.*
BRACHINUS glabratus, *e.*
sclopeta, *e.*
BRACHYTARSUS
scabrosus, *e.*
BRADYTUS crassus, *e.*
ferrugineus, *e.*
BROSCUS cephalotes, *e. i.*
BRUCHUS granarius, *e.*
scutellaris, *e.*
seminarius, *e.*
BYRRHUS pilula, *e.*
BYTURUS tomentosus, *e.*
CACICULA pectoralis, *e.*
CALATHUS cisteloides, *e. i.*
melanocephalus, *e. i.*
mollis, *e. i.*
CALLICERUS angusta, *e.*
brassicæ, *e.*
graminicola, *e.*
nitidula, *e.*
obscurus, *e.*
CALLIDIUM variabile, *i.*
CALODERA nigricollis, *e.*
uliginosa, *e.*
CALOSOMA
sycophanta, *e. i.*
CAMPYLUS linearis, *e.*
CARABUS auratus, *i.*
intricatus, *o.*
nemoralis, *o.*
CASSIDA concinna, *e.*
equestris, *e.*
sanguinosa, *i.*
splendidula, *e.*
CATERETES carieis, *e.*
glaber, *e.*
CATOPS dissimulator, *e.*
fornicatus, *e.*
Spencii, *e.*
CEUTORHYNCHUS
didymus, *e.*

CEUTORHYNCHUS
fuliginosus, *e.*
CEONIS *thapsus*, *i.*
CERAMBIA moschatus, *i.*
CERCYON acutum, *e.*
apicale, *e.*
bolitophagum, *e.*
depressum, *e.*
hæmorrhoidale, *e.*
hæmorrhoum, *e.*
inustum, *e.*
melanocephalum, *e.*
obsoletum, *e.*
piceum, *e.*
picinum, *e.*
ruficorne, *e.*
sordidum, *e.*
CETONIA aurata, *e. i. o.*
hirtella, *i.*
squalida, *i.*
CHILOCORUS
bipustulatus, *e. i.*
4 verrucatus, *e.*
CHLŒNIUS nigricornis, *e.*
vestitus, *e.*
CHOLŒVA angustata, *e.*
CHRYSOMELA Banksii, *e. i.*
distinguenda, *i.*
hyperici, *e.*
hæmoptera, *e. i.*
marginata, *e.*
polita, *e. i. o. u.*
CICINDELA
campestris, *e. i.*
CILLENUM laterale, *e.*
CIS hispidus, *e.*
CISTELA castanea, *e.*
ceramboides, *e.*
fulvipes, *e.*
fusca, *e.*
CLEONUS nebulosus, *e.*
sulcirostris, *e.*
CLIVINA fossor, *e.*
CLYTUS arietis, *e. i.*
CNEMIDOTUS cæsius, *e.*
COCCINELLA 5 punctata, *e.*
7 punctata, *e. i.*
9 punctata, *e. i.*
11 punctata, *e.*
22 punctata, *e. i.*
COLYMBETES agilis, *e.*
bipustulatus, *e.*
conspersus, *e.*
fuscus, *e. i.*
nebulosus, *e.*
subnebulosus, *e.*
uliginosus, *e.*
COLYMBETES vitreus, *e.*
COPRIS lunaris, *e. i.*
COPROPHILUS striatulus, *e.*
CRATONYCHUS niger, *i.*
CREOPHILUS
maxillosus, *e. i.*
CRIOCERIS cyanella, *e.*
melanopa, *e.*
CRYPTICUS quisquillius, *e.*
CRYPTOCEPHALUS
minutus, *e. i.*
Morœi, *e.*
ochraceus, *e.*
vittatus, *e.*
CRYPTORHYNCHUS
Lapathi, *e.*
CTENIOPUS sulphurea, *e. i.*
CURTONOTUS
convexiusculus, *e.*
CYCLONOTUM
orbiculare, *e. i.*
CYCNEGETIS globosa, *e.*
CYPHON lividus, *e.*
pubescens, *e.*
DASYTES æneus, *e. i.*
ater, *e.*
cœruleus, *e.*
pallipes, *e.*
viridis, *e.*
DEMETRIAS atricapillus, *e.*
DENDROPHILUS
punctatus, *e.*
pygmæus, *e.*
DEPORAUS betulæ, *e.*
DERMESTES lardarius, *e.*
DIACHROMUS germanus, *i.*
DOLOPIUS marginatus, *e.*
DORYTOMUS tremulæ, *e.*
vecors, *e.*
DROMIUS agilis, *e.*
bipennifer, *e.*
fasciatus, *e.*
foveolus, *e.*
linearis, *e.*
melanocephalus, *e.*
meridionalis, *e.*
quadrillum, *e.*
4 maculatus, *e.*
4 notatus, *e.*
spilotus, *e.*
DYSCHIRIUS æneus, *e.*
gibbus, *e.*
rufipes, *e.*
DYTICUS marginalis, *e. i.*
punctulatus, *e.*
ECTINUS aterrimus, *e.*
ELATER balteatus, *e.*
ELATER ustulatus, *e.*
ELMIS æneus, *e.*
Volkmanni, *e.*
EMUS hirtus, *e.*
ENDOMYCHUS
coccineus, *e.*
FALAGRIA confinis, *e.*
nigra, *e.*
GALERUCA cratægi, *e.*
tanaceti, *e.*
GASTROPHYSA
polygoni, *e. i.*
GEOTRUPES mutator, *e.*
punctato striatus, *e.*
puncticollis, *e.*
stercorarius, *e. i.*
sylvaticus, *e.*
vernalis, *e. i.*
GŒRIUS olens, *e.*
punctulatus, *e.*
GRACILIA pygmæa, *i.*
GYRINUS minutus, *e.*
GYRINUS natator, *e. i.*
ovatus, *e.*
HALIPLUS brevis, *e.*
enficollis, *e.*
fulvicollis, *e.*
lineato-collis, *e.*
obliquus, *e.*
HALTICA antennata, *e.*
Lepidii, *e.*
nemorum, *e.*
vittata, *e.*
HARPALUS æneus, *e.*
anxius, *e.*
femoralis, *e.*
fulvipes, *i.*
rubripes, *i.*
ruficornis, *e.*
rufimanus, *e.*
tardus, *e.*
HELOBIA brevicollis, *e. i.*
HELODES beccabungæ, *e.*
phellandrii, *e.*
HELOPHORUS aquaticus, *e.*
grandis, *e.*
granularis, *e.*
griseus, *e.*
HELOPS striatus, *e. i.*
HESPEROPHILUS
fracticornis, *e.*
homopterus, *e.*
HISTER cadaverinus, *e.*
carbonarius, *e.*
12 striatus, *e.*
merdarius, *e.*
purpurascens, *e.*

HISTER 4 maculatus; *e.*
reniformis, *i.*
unicolor, *e. i.*
HOPLIA philanthus, *i.*
HYDATICUS hyberni, *e.*
HYDROBIUS fuscipes, *e. i.*
HYDROPHILUS piceus, *e. i.*
HYDROPORUS
erythrocephalus, *e.*
granularis, *e.*
lineatus, *e.*
melanocephalus, *e.*
minimus, *e.*
ovalis, *e.*
picipes, *e.*
trivialis, *e.*
xanthopus, *e.*
HYGROTUS collaris, *e.*
inæqualis, *e.*
scitulus, *e.*
HYPERA plantaginis, *i.*
punctata, *e. i.*
rumicis, *e.*
trifolii, *e.*
HYPHIDRUS variegatus, *e.*
INEDRUS attenuatus, *i.*
lateralis, *i.*
ISCHNOPODA chalybea, *e.*
foveata, *e.*
ISOMERA murina, *i.*
LACCOBIUS limbatus, *e.*
minutus, *e.*
æneus, *e.*
LACCOPHILUS
hyalinus, *e. i.*
minutus, *e.*
LACON murinus, *i.*
LAGRIA hirta, *e. i.*
LAMPYRIS noctiluca, *i.*
LATHRIMÆUM
nigriventre, *e.*
unicolor, *e.*
LATHROBIUM
elongatum, *e.*
LEIOPHILUS nubilus, *e.*
LEISTRIPHONUS
murinus, *i.*
LEISTUS fulvibarbis, *e.*
spinibarbis, *e.*
spinilabarbis, *e.*
LEMA asparagi, *i.*
LEPTURA tomentosa, *e. i.*
LIMNEBIUS ater, *e.*
LIXUS angustatus, *e.*
bicolor, *i.*
LOPHA assimilis, *e.*
pulicaria, *e.*
LOPHA 4 guttata, *e.*
4 maculata, *e.*
LORICERA pilicornis, *e. i.*
LUCANUS cervus, *e. i.*
MACROCNEMA
dulcamaræ, *e.*
MAGDALIS aterrima, *e.*
MALTHINUS concolor, *e.*
luteolus, *e.*
nigricollis, *e.*
MASORETS luxatus, *e. i.*
MELANDRYA
caraboides, *e. i.*
MELIGETHES
erythropus, *e.*
rufipes, *e.*
viridescens, *e. i.*
MELOE cicatricosus, *e.*
proscarabæus, *i.*
MELOLONTHA vulgaris, *e. i*
MONOCHAMUS sutor, *i.*
MICROPEPLUS tesserula, *e.*
MICRASPIS 12 punctata, *e.*
MORDELLA pumila, *e.*
NEBRIA complanata, *u*
NECROBIA ruficollis, *e.*
NECROMES littoralis, *i.*
NECROPHORUS
humator, *e. i.*
vespillo, *e. i.*
vestigator, *e.*
NEDYUS nigrinus, *e.*
NEMOICUS oblongus, *e.*
NIPTUS colubrinus, *i.*
NITIDULA colon, *e.*
discoidea, *e.*
grisea, *e.*
punctatissima, *e.*
4 pustulata, *e.*
rufomarginata, *e.*
silaçea, *e.*
variegata, *e.*
NOTARIS acridulus, *e.*
NOTERUS
semipunctatus, *e.*
NOTOXUS monoceros, *e. i.*
NOTIOPHILUS
aquaticus, *e.*
biguttatus, *e.*
OCYPUS olens, *i.*
picipes, *e.*
OCYS currens, *e.*
melanocephalus, *e.*
tempestivus, *e.*
OCHTHEBIUS
hibernicus, *e.*
marinus, *e.*
ŒDEMERA
cœrulea, *e. i.*
OICEOPTOMA sinuata, *e. i.*
OLISTHOPUS
rotundatus, *e.*
OMASEUS anthracinus, *e.*
melanarius, *e. i.*
nigrita, *e.*
ONTHOPHAGUS
Dillwynii, *e.*
fracticornis, *e.*
medius, *e.*
nuchicornis, *e. i*
taurus, *e. i.*
vacca, *e. i.*
ONTHOPHILUS striatus, *e.*
OPATRUM sabulosum, *e. i.*
OPHONUS cribellum, *e.*
obscurus, *e.*
obsoletus, *e.*
pubescens, *e.*
puncticeps, *e.*
puncticollis, *e.*
nitidulus, *e.*
sabulicola, *e.*
ORCHESTES alni, *e.*
melanocephalus, *e.*
quercus, *e.*
semirufus, *e.*
ORTHOCHÆTES setiger, *e.*
ORYCTES nasicornis, *i.*
OTIORHYNCHUS
atro-apterus, *e. i.*
ligneus, *e.*
niger, *e.*
notatus, *e.*
OTIORHYNCHUS
picipes, *i.*
septentrionis, *e.*
sulcatus, *e. i.*
OXYSTOMA ulicis, *e.*
OXYTELUS carinatus, *e.*
flavipes, *e.*
nitens, *e.*
OXYTHYREA stictica, *i.*
PACHYRHINUS comari, *e.*
PÆCILUS cupreus, *e. i.*
dimidiatus, *e. i.*
versicolor, *e.*
PÆDERUS littoralis, *e.*
riparius, *i.*
PÆLOBIUS Hermanni, *e.*
PARNUS impressus, *e.*
prolefericornis, *e.*
PAROMALUS flavicornis, *e.*
PERYPHUS littoralis, *e.*
PHAEDON betulæ, *e.*

PHAEDON marginella, *e.*
PHALACRUS æneus, *e.*
caricis, *e.*
PHALERIA cadaverina, *e.*
PHILHYDRUS
atricapillus, *e.*
fulvus, *e.*
lividus, *e.*
marginellus, *e.*
melanocephalus, *e.*
testaceus, *e.*
PHILOCTHUS æneus, *e.*
biguttatus, *e.*
guttula, *e.*
politus, *i.*
sub fenestratus, *e.*
PHILOPEDON geminatus, *e.*
scrobiculatus, *e.*
PHILONTHUS atratus, *e.*
lituratus, *e.*
lucens, *e.*
PHYLAN gibbus, *e. i.*
PHYLLOBIUS parvulus, *e.*
uniformis, *e. i.*
viridicollis, *e.*
PHYLLOPERTHA
suturalis, *i.*
PLATYSTHETUS
morsitans, *e.*
PODABRUS melasurus, *i.*
PODAGRICA ærata, *e.*
collaris, *e.*
cyanea, *e.*
ferruginea, *e.*
fuscipes, *e.*
ochroleuca, *e.*
pallens, *e.*
rubi, *e.*
striatula, *e.*
thoracica, *e.*
POGONOCHÆRUS
fasciculatus, *e.*
POGONUS chalceus, *e.*
PRISTONYCHUS
terricola, *e.*
PTEROSTICHUS niger, *i.*
PTINUS crenatus, *e.*
fur, *e.*
QUEDIUS tristis, *e.*
RHINUSA antirrhini, *e.*
RHISOTROGUS
solstitialis, *e. i.*
RHIZOBIUS litura, *e. i.*
RHYNCOLLUS
truncorum, *e.*
RHYZOPHAGUS rufus, *e.*
RUGILUS orbiculatus, *e.*
SAPRINUS maritimus, *e.*
æneus, *e.*
SCOLYTUS destructor, *e. i.*
SCYMNUS ater, *e.*
atriceps, *e.*
colon, *e.*
marginalis, *e.*
2 pustulatus, *e.*
4 pustulatus, *e.*
SERICA brunnea, *e.*
SILPHA lævigata, *i.*
obscura, *i.*
tristis, *e. i.*
SITONA hispidula, *e.*
lineata, *e.*
puncticollis, *e.*
subaurata, *e.*
sulcifrons, *e.*
SPHÆRIESTES
foveolatus, *e.*
SPHERIDIUM
bipunctatum, *e.*
marginatum, *e.*
scarabæoides, *e. i.*
SPHODRUS
leucophthalmus, *e. i.*
STAPHYLINUS
cantianus, *e.*
casareus, *i.*
erythropterus, *e.*
stercorarius, *e.*
STENOLOPHUS
Skrimshiranus, *e.*
vaporiariorum, *e.*
vespertinus, *e.*
var. Ziegleri, *e.*
STENUS nigritcornis, *e.*
STEROPUS madidus, *b. i.*
STOMIS pumicatus, *e.*
SUNIUS
melanocephalus, *e.*
ochraceus, *e.*
TACHINUS scapularis, *e.*
TACHYPUS celer, *e.*
properans, *e.*
TANYMECUS palliatus, *e. i.*
TARUS angularis, *e.*
macularis, *e.*
TELEPHORUS ater, *e.*
testaceus, *e.*
thoracicus, *e.*
TENEBRIO molitor, *e. i.*
TIMARCHA coriata, *e. i.*
TYPHÆUS vulgaris, *e. i.*
TRECHUS aquaticus, *e.*
dorsalis, *e.*
flavicollis, *e.*
fulvus, *e.*
meridianus, *e.*
TRICHODERMA
murinum, *e.*
nebulosum, *e.*
VULGUS hemipterus, *i.*
XANTHOLINUS
glabratus, *e.*
punctulatus, *e.*
tricolor, *e.*
ZABRUS gibbus, *e. i.*

This list of beetles chiefly relates to Guernsey, and is communicated by Dr. Lukis, who has collected very carefully. It would admit of great extension.

The Jersey species, a few of which are inserted on the authority of Mr. Piquet, are certainly numerous, probably more so than those of Guernsey. No list has been obtained of the beetles either of Sark or Alderney.

Orthoptera.
(Earwigs, Grasshoppers, &c.)

ACHETA campestris,
BLATTA lividas
FORFICULA auricularia,
GRYLLOTALPA vulgaris.
GRYLLUS domesticus.
LABIA minor.
ŒDIPODA cœrulescens.
TETTIGONIA viridissima.

Neuroptera.
(Dragon Flies, &c.)

ÆSCHNE grandis.
AGRION puella.
virgo.
CALYPTERYX
ludoviciana.
virgo.
HALISUS digitatus.
HEMEROBIUS perla.
LIBELLULA ænea.
LIMNOPHILUS griseus.
lunatus.
PHYLOPTAMUS
scopulorum.
RHYACIPHILA vulgaris.
RHYPHUS fenestralis.

Hymenoptera.
(Bees, Wasps, &c.)

ATLANTUS
blandis.
scrophulariæ.
AMMOPHILA hirsuta.
ANDRENA
albicans.
atra.
ANTHIDIUM manicatum.
ANTHOPHORA acervorum.
pilipes.
retusa.
APALUS campestris.
rupestris.
ATHALINA centifolia.
BEMBEX rostrata.
BOMBUS hortorum.
lucorum.
muscorum.
pratorum.
senilis.
terrestris.
CHRYSIS ignata.
COLOXIS rufocaudata.
CRABRO dimidiatus.
CYNIPS
gallæ tinctoriæ
quercus folia.
ENCERA longicornis.
EXETOSTIS clavatus.
FORMICA rufa.
ICHNEUMON
fasciatorius.
leucomiles.
sarcitorius.
LISSONATA setora.
MEGACHILE
maritima.
muraria.
ODYNERUS parietum.
OPHION lutens.
OSMIA cornuta.
SIREX juveneus.
SUDURA Vanthiera.
TEUTHREDA
salicis.
santillaris.
VESPA
germanica
sylvestris.
vulgaris.

These lists have been communicated by Mr. Piquet, of Jersey. They are extremely imperfect; and no Guernsey list whatever has been received.

The following remarks on one species of bee, that has attracted the close attention of entomologists and others, will be found interesting, as relating to the habits of an insect not generally familiar.

"The leaf-cutter bee is one of the curiosities of Burhou. It is also found in Alderney, and more rarely in the other islands. This insect excavates a cylindrical hole in the ground to a depth of several inches, and fills the cavity with six or seven cells, wholly composed of pieces of leaf, cut conically, so as to fit one into another. The cells are filled of a mixture of honey and pollen, and the egg being deposited, the whole is closed with three pieces of leaf, cut so as to form an exact circle, and fitting firmly and closely."

Lepidopterous Insects.

Butterflies.

ANTHOCHARIS
cardamines, *i.*
ARGYNNIS aglaia.
CŒNONYMPHA
pamphilus, *e. i. o.*
CHRYSOPHANUS
phlæas, *e. i.*
dispar, *i.*
COLIAS edusa, *e. i.*
var. helice, *i.*
hyale, *e. i.*
CYNTHIA cardui, *e. i.*
GONEPTERYX rhamni, *e. i.*
GRAPTA C. album, *i.*
HIPPARCHIA janira, *e. i.*
HIPPARCHIA semele, *e. i.*
tithonus, *e. i. o.*
LASIOMMATA ægeria, *e. i.*
megæra, *e. i.*
LEUCOPHASIA sinapis, *i.*
MELITÆA cinxia, *e. i.*
dia, *i.*
PAMPHILA comma, *i.*
linea, *i. o.*
sylvanus, *e. i.*
PAPILIO machaon, *i.*
PIERIS brassicæ, *e. i.*
daplidice, *i.*
metra, *e.*
napi, *e. i.*
PIERIS rapæ, *e. i.*
POLYOMMATUS ægon, *e. i.*
agestis, *e. i.*
alexis, *e. i.*
alsus, *e.*
argiolus, *e. i.*
argus, *e.*
bœticus, *e. i.*
THECLA quercus, *i.*
rubi, *e. i.*
W. album, *i.*
VANESSA antiopa, *i.*
atalanta, *e. i.*
Io, *e. i.*
polychloros, *e. i.*
urticæ, *e. i.*

Moths.

ABRAXAS
grossulariata, *e. i.*
ABROSTOLA triplasia, *e. i.*
urticæ, *e. i.*
ACHERONTIA atropos, *e. i.*
ACIDALIA aversata, *e. i.*
bicetata, *e.*
holosericata, *i.*
imitaria, *e. i.*
immutata, *e. i.*
incanata, *e.*
meanata, *e.*
margine punctata, *i.*
osseata, *i.*
remutata, *e.*
rusticata, *e.*
scutulata, *e. i.*
virgularia, *e. i.*
ACRONYCTA aceris, *i.*
leporina, *i.*
ligustri, *i.*
megacephala, *e.*
psi, *e. i.*
rumicis, *i.*
tridens, *e. i.*
ADELA begeacea, *i.*
AGLOSSA pinguinalis, *e. i.*
AGRIOPIS aprilina, *i.*
AGROTIS corticea, *e. i.*
cursoria, *e.*
exclamationis,
lunigera, *e.*
AGROTIS nigricans, *e. i.*
porphyrea, *e. i.*
puta, *e.*
saucia, *e. i.*
segetum, *e. i.*
suffusa, *e.*
tritici, *e. i.*
valligera, *e. i.*
ALUCITA polydactyla, *e. i.*
AMPHIDASIS
betularia, *e. i.*
prodromaria, *i.*
AMPHIPYRA
pyramidea, *e. i.*
tragoponis, *e. i.*
ANAITIS plagiaria, *e. i.*
ANARTA myrtilli, *i.*
ANASYCHIA bipunctella, *i.*
ANCHOCELIS litura, *i.*
lunosa, *e. i.*
pistacina, *e. i.*
ANGERONA prunaria, *e.*
ANISOPTERYX
æscularia, *e.*
ANTHROCERA
filipendulæ, *i.*
loniceræ, *e. i.*
trifolii, *e.*
ANTICLEA rubidata, *e. i.*
ANTITHESIA
cynosbatella, *e.*
APAMEA basilinea,
APAMEA oculea, *e. i.*
unanimis, *e.*
APHOMIA colonella, *e. i.*
APLECTA advena, *i.*
occulta, *e.*
nebulosa, *i.*
APORIA cratægi, *i.*
APOROPHYLA australis, *e.*
ARCTIA caja, *e. i.*
villica, *i.*
ARGYRESTHIA
Brockeella, *e.*
ephippella, *e.*
nitidella, *e.*
ARGYROLEPIA Badiana, *e.*
Baumanniana, *e.*
subbaumaniana, *e.*
ARGYROTOSA
Conwayana, *e.*
ASPILATES citraria, *e. i.*
strigillaria, *i.*
ASTHENA candidaria, *i.*
AVENTIA flexula, *e.*
AXYLIA putris, *e.*
BISTON betularia, *i.*
hirtaria, *i.*
prodromaria, *i.*
BOARMIA
rhomboidaria, *e. i.*
BOTYS forficalis, *i.*
hyalinalis, *i.*
lancealis, *i.*

BOTYS terrealis, *i.*
urticata, *e. i.*
verticalis, *e. i.*
BRADYEPATIS
amateria, *e. i.*
BREPHOS parthenias, *i.*
BRIOPHILA
glandifera, *e. i.*
perla, *e. i.*
CABERA
exanthemata, *e. i.*
punctaria, *i.*
pusaria, *e. i.*
CALLIMORPHA
hera, *e. i.*
jacobææ, *e. i.*
CALOCAMPA exoleta, *i.*
CAMPTOGRAMMA
bilineata, *e. i.*
CARADRINA blanda, *i.*
cubicularis, *e. i.*
morpheus, *e.*
CARPOCAPSA
pomonella, *e.*
splendana, *e.*
CATACLYSTA
lemnata, *e. i.*
CATOCALA fraxini, *i.*
nupta, *e. i.*
promissa, *i.*
CELÆNA Haworthii, *e.*
CERASTIS vaccinii, *i.*
CERIGO cytherea, *e.*
CEROSTOMA vittella, *e.*
xylostella, *e.*
CERURA bifida, *i.*
vinula, *i.*
CHÆROCAMPA celerio, *i.*
elpenor, *i.*
porcellus, *i.*
CHAREAS graminis, *i.*
CHEIMATOBIA
brumaria, *i.*
CHLOEPHORA
prasinana, *i.*
CHLOROCHROMA
æstivaria, *i.*
vernaria, *i.*
CIDARIA dotata, *e.*
immanata, *e. i.*
miata, *i.*
picata, *i.*
populata, *i.*
prunata, *e. i.*
pyraliata, *e. i.*
russata *e. i.*
suffumata, *i.*
CIDARIA testata, *e. i.*
CILIX spinula, *e. i.*
CLEORA lichenaria, *e. i.*
CLISIOCAMPA neustria, *i.*
COCCYX hyrciniana, *e.*
COLEOPHORA prasinana, *e.*
COLEOPHORA (*TINEINA*)
albicosta, *e.*
cæspititiella, *e.*
vibicella, *e.*
COREMIA ferrugaria, *e. i.*
lignotraria, *i.*
propugnata, *i.*
unidentaria, *i.*
COSMIA affinis, *e. i.*
diffinis, *e. i.*
trapezina, *e. i.*
COSSUS ligniperda, *e. i.*
CRAMBUS
contaminellus, *e.*
culmellus, *e.*
feniculeus, *i.*
furcatellus, *e.*
hamellus, *e.*
hortuellus, *e. i.*
inquinatellus, *e.*
pascuellus, *e.*
pratellus, *e. i.*
selosellus, *i.*
tristellus, *e.*
CROCALLIS
elinguaria, *e. i.*
CRŒSIA Bergmanniana, *e.*
Forskaleana, *e.*
Holmiana, *e.*
CUCULLIA chamomillæ, *i.*
scrophulariæ, *e. i.*
umbraticæ, *e. i.*
verbasci, *e. i.*
DASYCERA sulphurella, *e.*
DASYCHIRA fascelina, *e. i.*
pudibunda, *e. i.*
DEILEPHILA celerio, *e.*
euphorbiæ, *e. i.*
livornica, *e. i.*
DEPRESSARIA atomella, *e.*
carduella, *e.*
heracliana, *e.*
ocellana, *e.*
umbellana, *e.*
Yeatiana, *e.*
DIANTHÆCIA
capsincola, *e. i.*
cucubali, *e.*
DIAPHORA mendica, *i.*
DICRORAMPHA
alpinana, *e.*
DICROPAMPHA
petiverella, *e.*
DICTYOPTERYX
contaminana, *e.*
DIPTERYGIA pinastri, *e.*
DITULA angustiorana, *e.*
DREPANA falcula, *i.*
EARIAS clorana, *e.*
EBULEA crocealis, *e.*
sambucalis, *e.*
verbascalis, *e. i.*
ELACHISTA adscitella, *e.*
cygnipennella, *e.*
gangabella, *e.*
perplexella, *e.*
EMMELESIA
unifasciata, *e.*
ENDOTRICHA
flammealis, *e. i.*
ENDROSIS fenestrella, *e.*
ENNOMOS angularia, *e.*
tiliaria, *e.*
ENNYCHIA cingulalis, *e. i.*
octomaculata, *i.*
EPHYRA pendularia, *i.*
poraria, *i.*
trilinearia, *e.*
EPIONE apiciaria, *e.*
vespertaria, *e.*
EPUNDA lichenea, *e.*
nigra, *e.*
ERASTRIA fuscula, *i.*
EREBIA megæra, *i.*
EUBOLIA bipunctaria, *i.*
mensuraria, *e. i.*
plumbaria, *i.*
vincinaria, *e.*
EUDOREA pyralella, *e.*
pyrola, *i.*
EUPŒCILIA maculosana, *e.*
EUPITHECIA
absynthiata, *e. i.*
assimilata, *e.*
austerata, *i.*
castigata, *i.*
centaureata, *e. i.*
exiguata, *e.*
irriguata, *i.*
linariata. *e.*
nanata, *e. i.*
pumilata, *e. i.*
rectangulata, *e.*
rufifasciata, *i.*
sobrinata, *e.*
subnotata, *e.*
subumbrata, *e.*
succenturiata, *e.*

EUPLEXIA lucipara, *e. i.*
EUTHEMONIA russula, *e. i.*
FIDONIA atomaria, *i.*
plumaria, *i.*
FUMEA nitidella, *i.*
GALLERIA mellonella, *i.*
GASTROPACHA quercifolia, *e. i.*
GELECHIA malvella, *e.*
mulinella, *e.*
GEOMETRA papilionaria, *i*
GNOPHOS obscurata, *e.*
GNOPHRIA rubricollis, *e.*
GONOPTERA libatrix; *e. i.*
GORTYNA flavago, *e.*
GRACILARIA omissella, *e.*
GRAPHOLITA ulicetana, *e.*
HABROSTOLA triplasia, *e. i.*
urticæ, *e. i.*
HADENA adusta, *e.*
chenopodii, *e.*
dentina, *e.*
oleracea, *e. i.*
pisi, *e.*
thalassina, *e.*
HALIA wavaria, *e. i.*
HALONOTA bimaculana, *e.*
scutulana, *e.*
HARPALYCE fulvaria, *i.*
pyraliaria, *i.*
suffumaria, *i.*
HECATERA dysodea, *e.*
HELIODES arbuti, *i.*
HELIOPHOBUS hispida, *i. i.*
popularis, *i.*
HELIOTHIS peltigera, *e. i.*
HEMEROPHILA abruptaria, *i.*
HEMITHEA cythisaria, *i.*
thymiaria, *e. i.*
HEPIALUS lupulinus, *e.*
sylvinus, *e.*
velleda, *e.*
HERBULA cespitalis, *e. i.*
HERMINIA tarsipennalis, *i.*
HIBERNIA desoluaria, *i.*
progemmaria, *i.*
stictaria, *i.*
HIMERA pennaria, *e. i.*
HYDRÆCIA nictitans, *i.*
HYPENA proboscidialis, *e. i.*
rostralis, *i.*
HYPENODES albi strigalis, *e.*
HYPERCOMPA hera, *i.*
HYPONOMEUTA padellus, *e. i.*
HYPSIPETES elutata, *i.*
IODIS lactearia, *i.*
LARENTIA didymata, *e. i.*
miaria, *e. i.*
multistrigaria, *e. i.*
olivaria, *e.*
salicaria, *e.*
LASIOCAMPA quercus, *e. i.*
rubi, *i.*
trifolii, *e. i.*
LAVERNA atra, *e.*
LEUCANIA comma, *e.*
conigera, *i.*
impura, *e. i.*
L. album, *i.*
lithargyria, *e. i.*
pallens, *e. i.*
straminia, *e.*
LITHOCOLLETIS pomifoliella, *e.*
quercifoliella, *e.*
LITHOSIA complanula, *e. i.*
griseola, *e.*
LOGOSTENIA ribiana, *i.*
suprana, *i.*
LOMASPILIS marginata, *e. i.*
LOPHOPTERYX camelina, *i.*
LOZOGRAMMA petraria, *i.*
LOZOPERA Francillana.
LOZOTÆNIA roborana, *e.*
rosana, *e.*
LUPERINA testacea, *e. i.*
LYONETIA Clerckella, *e.*
MACROGLOSSA philanthiformis, *i.*
stellatarum, *e. i.*
MAMESTRA brassicæ, *i.*
furva, *e.*
persicariæ, *i.*
MANIA maura, *e. i.*
typica, *e. i.*
MELANIPPE biriviata, *e.*
fluctuata, *e. i.*
galiata, *e. i.*
montenata, *i.*
procellaria, *i.*
rivata, *i.*
tristata, *i.*
MELANTHIA ocellata, *e. i.*
rivaria, *i.*
rubiginata, *e.*
METROCAMPA margaritata, *e. i.*
MIANA fasciuncula, *e. i.*
furuncula, *i.*
strigilis, *e. i.*
MILTOCHRISTA miniata, *e. i.*
MISELIA oxyacanthæ, *e.*
MYELOIS marmorea, *e.*
NEMORIA viridata, *e.*
NEPTICULA aurella, *e.*
marginicolella, *e.*
ruficapitella, *e.*
NOCTUA augur, *i.*
baja, *i.*
bella, *e.*
C. nigrum, *i.*
festiva, *e. i.*
glareosa, *e.*
plecta, *e. i.*
triangulum, *e. i.*
umbrosa, *i.*
xanthographa, *e. i.*
NOLA cucullatella, *e.*
strigula, *e.*
NOTOCELIA Udmanniana, *e. i.*
NOTODONTA zic zac, *e. i.*
NUDARIA mundana, *e.*
NUMERIA pulveraria, *i.*
ODONESTIS potatoria, *e. i.*
ODONTOPTERA bidentata, *i*
ŒCOPHORA flavimaculella, *e.*
ŒNISTIS quadra, *i.*
OPORABIA dilatata, *e.*
ORTHOSIA lota, *e.*
OURAPTERYX sambucaria, *e. i.*
PARDIA tripunctana, *e.*
PERONIA hastiana, *e.*
tristana, *e.*
variegana, *e.*
PHIBALAPTERYX tersata, *e.*
vitalbata, *e.*
PHIBALOCERA quercana, *e. i.*
PHLOGOPHORA empyrea, *i.*
meticulosa, *e. i.*
PHRAGMATOBIA fuliginosa, *i.*
PHYTOMETRA ænea, *i.*
PIONEA forficalis, *e. i.*
PIRONIA variegana, *i.*
PLUSIA bractea, *i.*
chrysitis, *e. i.*

PLUSIA gamma, *e. i.*
iota, *i.*
PLUTELLA
cruciferarum, *e.*
PŒCILOPHASIA
marginata, *i.*
POLIA chi, *e. i.*
flavocincta, *e. i.*
PORTHESIA auriflua, *e. i.*
chrysorrhœa, *e. i.*
PRAYS curtisellus, *e.*
PROCRIS statices, *e.*
PSILURA monacha, *e.*
PTEROPHORUS
acanthodactylus, *e.*
isodactylus, *e.*
parvidactylus, *e.*
pentadactylus, *e. i.*
pterodactylus, *e. i.*
punctidactylus, *e.*
spilodactylus, *e.*
PTEROSTOMA palpina, *e. i.*
PYGÆRA bucephala, *e. i.*
PYRAUSTA purpuralis, *e. i.*
PYRALIS farinalis, *e. i.*
RIVULA sericealis, *e.*
RUMIA cratægata, *e. i.*
RUSINA tenebrosa, *i.*
SATURNIA
pavonia-minor, *e. i. o.*
SCOPULA ferrugalis, *e. i.*
prunalis, *e.*
SCOTOSIA
dubitata, *e. i.*
SELENIA illunaria, *e. i.*
lunaria, *e.*
SELIDOSEMA plumaria, *e.*
SEMASIA Wœberana, *e.*
SESIA philanthiformis, *i.*
SIMYRA venosa, *e.*
SMERINTHUS
ocellatus, *e. i.*
populi, *e. i.*
tiliæ, *i.*
SPHECIA
bembriciformis, *i.*
SPHINX convolvuli, *e. i.*
ligustri, *e. i.*
SPILODES cinctalis, *e.*
SPILONOTA roborana, *e.*
SPILOSOMA
lubricipeda, *e. i.*
menthastri, *e. i.*
papyratia, *e.*
STEGANOLOPHIA
rubesiaria, *i.*
STENIA punctalis, *e. i.*
STENOPTERYX
hybridalis, *e. i.*
STIGMONOTA
internana, *e.*
STILPNOTIA salicis, *e.*
SYMŒTHIS fabricania, *i.*
TÆNIOCAMPA
cruda, *e. i.*
gothica, *e. i.*
instabilis, *e. i.*
rubricosa, *i.*
TÆNIOCAMPA stabilis, *e. i.*
TEPHROSIA
crepuscularia, *e.*
THYATIRA batis, *i.*
derasa, *e. i.*
TIMANDRA imitaria, *i.*
TINEA tapetzella.
TORTRIX icterana, *e.*
ribeana, *e.*
transitana, *e.*
viridana, *e. i.*
TRIPHÆNA fimbria, *i.*
ianthina, *e. i.*
interjecta, *i.*
orbona, *e. i.*
pronuba, *e. i.*
TROCHILIUM
formicæforme, *i.*
myopæforme, *i.*
tipuliforme, *e. i.*
URAPTERYX
sambucaria, *e. i.*
VENILIA macularia, *i.*
XANTHIA ferruginea, *i.*
XANTHOSETIA hamana, *e.*
zœgana, *e.*
XYLOCAMPA
lithorhiza, *e. i.*
XYLOPHASIA hepatica, *i.*
lythoxylea, *e. i.*
polyodon, *e. i.*
scolopacinata, *e.*
YPSIPETES elutata, *e. i.*

Important conclusions may be drawn from this list, but they are referred to another chapter. The Jersey catalogue, both of butterflies and moths, has been supplied by Mr. Johnson; but many additions are made on the authority of Mr. Piquet. The Guernsey list of butterflies was given by Dr. Lukis and Miss Wilkinson. The list of moths by Miss Wilkinson. The lepidoptera of Alderney and Sark, when collected, have not been kept separate from those found in the other islands.

On the whole the butterflies are comparatively few, and are not remarkable for beauty or size in either of the islands. The moths are more numerous, and some are fine. That rare and splendid species, the death's-head hawk-moth, is more common in all the islands than in England.

The following lists of the remaining families of insects are confessedly very imperfect. The specimens were named by Mr. Walker, and obtained in Jersey by Mr. Piquet. There are some curious and rare species, but the catalogue is too incomplete to justify any general remarks. No list has been obtained for any of the islands, except Jersey.

Hemiptera.

ACANTHOSOMA
hæmorrhoidalis.
AELIA acuminata.
ALYDUS calcaratus.
CAPSUS tricolor.
CORIXA Gœffroyi.
EURIGASTER mamus.
HYDROMETRA
stagnorum.
ICHIRUS moris.
NEPA cinerea.
NOTONECTA glauca.
PENTASOMA baccarum.
juniperina.
lurida.
lyrix.
SCIOCORIS
umbrinus.
STENOCEPHALUS
agilis.
SYGŒUS apterus.
SYROMASTES
marginatus.

Diptera.
(Flies, Gadflies, &c.)

ANTHOMYIA radicum, *i.*
ASICIA signata, *i.*
ASILIS crabroniformis, *i.*
fimbriatus, *i.*
pebelus, *i.*
AUTONEMA hortorum, *i.*
CHRYSOPILA aurata, *i.*
CICLOPA frigida, *i.*
ECHINOMYIA ferox, *i.*
ERISTALIX tenax, *i.*
HIPPOBOSCA equi, *i.*
HYDROPHORA
nigrimana, *i.*
MUSCA corrina, *i.*
equistris, *i.*
rudis, *i.*
OESTRUS equi, *i.*
SAPROMYZA flava, *i.*
SARCIPHAGA camaria, *i.*
SCATOPHORA
analis, *i.*
stercoraria, *i.*
SEPTIS immaculata, *i.*
scolopaga, *i.*
STOMAXIJS irritans, *i.*
SYCPHUS bolteatus, *i.*
decorus, *i.*
pyrastii, *i.*
ucilia cœsa, *i.*
TABANUS autumnalis, *i.*
TEPHRISTIO heraclii, *i.*
TIPULA gigantea, *i.*
oleracea, *i.*
TITANOCERA obliterata, *i.*
VIXIA lateralis, *i.*
VOLUCELLA bombylans, *i.*
inanis, *i.*

Myriapoda.
(Centipedes, &c.)

GEOPHILUS electricus.
longicornis.
GLOMERIS marginata.
JULUS terrestris.
LITHOBIUS forficatus.
SCUTIGERA coleoptrata.

Spiders.

The following short list of species (all from Guernsey) has been communicated by Mrs. W. Collings. It will probably be greatly added to before long, as the subject has lately attracted attention. Many other species are known to exist in the rocks and cliffs, but the names are not yet determined.

ATYPUS Sulzeri.
CINIFER atrox.
ferox.
DRASSUS ferrugineus.
lapidicolens.
pedestris.
DYSDERA erythrina.
EPEIRA diadema.
ERESUS cinnabarinus.
LYCOSA andrenivora.
PHOLCUS phalangeoides.
SEGESTRIA senoculata.
SPARASSUS
smaragdulus.
THOMISUS floricolens.
TEGENARIA atrica.
civilis.
domestica.

Of these spiders several are rare in England, and some are very beautiful, especially *eresus cinnabarinus*.

Classed among the spiders are some curious marine animals, resembling mites, generally parasitic, and an aquatic group, common in fresh water in England. Though not yet found, they may be looked for in the islands with every probability of success.

Cirrhipedia or Barnacles.

BALANUS balanoides, *o.*
var. fistulorum, *o.*
crenatus, *o.*
improvisus, *o.*
perforatus, *o.*
porcatus, *o.*

CONCHODERMA
aurita, *e.*
virgata.
var. chelonophilus, *e*
LEPAS anatifera, *e.*
anserina, *e.*

LEPAS
fascicularis, *e.*
pectinata, *e.*
POLLICIPES cornu, *e. o.*
SCALPELLUM vulgare, *e.*
TETRACLITA radiata, *o.*

The curious shells belonging to this class of animals are referred to two groups, of one of which the *balanus*, or acorn shell, is the type, while of the other, the *lepas* or barnacle is an example. Both have representatives in the Channel Island waters. The former are readily distinguished by their solid attachment without any stalk, whereas the latter possess shelly valves at the extremity of a flexible tube. In their early development these animals so closely resemble some of the crustaceans, that they are regarded by some naturalists as forming a subdivision of that group. The species named in the above list were noticed by Mrs. Collings, who has communicated so much information concerning the natural history of the islands. The cut represents a zoophyte, common enough among the sea-weed left on the shore by the retiring tide, attached to a species of barnacle occasionally found in Guernsey.

PLUMULARIA PENNATULA
growing on
SCALPELLUM VULGARE.

CRUSTACEA.

Stalk-eyed Crustaceans.

(Crabs, Lobsters, Shrimps, &c.)

ALPHEUS affinis, *e.*
ATELECYCLUS
heterodon, *e.*
ATHANAS nitescens, *e.*
AXIUS stirynchus.
CALLIANASSA
subterranea, *e. i.*
CANCER pagurus.
CARCINUS mœnas, *e. i.*
CORYSTES
cassivelaunus, *e. i.*
CRANGON sculptus, *e.*
vulgaris, *e.*
DROMIA vulgaris, *e.*
EBALIA Cranchii, *e.*
Pennantii, *e.*
tuberosa, *e.*
tumefacta, *e.*
EURYNOME aspera, *e.*
GALATHÆA nexa, *e.*
squamifera, *e.*
GALATHÆA strigosa, *e. i.*
GEBIA stellata, *e.*
GONOPLAX angulata, *e.*
HOMARUS vulgaris.
HYAS coarctus, *e. i.*
INACHUS dorhynchus, *e.*
dorsettensis, *e.*
scorpio, *i.*
MAIA squinado, *e. i.*
MYSIS chameleon, *e.*
vulgaris, *e. i.*
PAGURUS Bernhardi, *e. i.*
Prideauxii, *e.*
PALINURUS vulgaris, *e. i.*
PALÆMON serratus.
varians, *e.*
PHYLLOSOMA sarniense, *e.*
sp. undescribed, *e.*
PILUMNUS hirtellus, *e. i.*
PINNOTHERES pisum, *i.*
PIRIMELA denticulata, *e.*
PISA Gibbsii, *e.*
tetraodon, *e. i.*
PLANES Linnæana, *e.*
POLYBIUS Henslowi, *e.*
PORCELLANA
longicornis, *e.*
platycheles, *e. i.*
PORTUNUS
arcuatus, *e.*
corrugatus, *e.*
holsatus, *e.*
puber, *e. i.*
pusillus, *e.*
SCYLLARUS arctus, *e.*
SQUILLA Desmarestii, *e. i.*
STENORHYNCHUS
phalangium.
tenuirostris, *e. i.*
THIA polita, *e.*
XANTHO florida, *e. i.*
rivulosa, *e.*

Under the name Stalk-eyed Crustaceans, are included most of the larger species of the tribe. They are well characterised, by the possession of eyes placed at the end of a horny tube projecting from the head. They form the best known and most easily recognised of all the crustaceans, and are abundant all round the coast of the British islands.

The rocky shores of the Channel Islands afford innumerable convenient hiding places for crustaceans, and these animals consequently abound in number, and are very varied in species. The large shore crab (*cancer pagurus*) attains large size, and is a very profitable animal to the shore fishermen, the supply to the market being regular, and the consumption large. Very fine individuals are often obtained. The spider crab, and swimming or velvet crab, are also eaten, and are abundant at certain seasons. The smaller crabs, although they are plentiful, are not seen in

the market, but may be found on every part of the coast round all the islands. It is not unlikely that many of the species now neglected would be available for human food.

The lobster (*homarus vulgaris*) affords a large and important export trade, chiefly with Southampton. Vast numbers are obtained weekly from the coast of Guernsey, but comparatively few are consumed in the island. The spiny lobster, locally called cray-fish (*palinurus vulgaris*), is also very common, but not so much valued as the lobster. Beautiful specimens of the *galathea*, of the two first-named species in the list (the last is very rare) have been taken frequently enough in Guernsey, but they are not much known.

Of the smaller kinds, prawns and shrimps are found in most of the sandy bays, but are not very much fished for in Guernsey. They are more common in Jersey. The common grey shrimp (*crangon vulgaris*) is a remarkably intelligent little animal, making acquaintance with its owner when carefully tended in a tank, and readily rising to its food. Miss Le Lievre, of Guernsey, whose command over the aquarium, derived from constant and careful attention, is quite marvellous, has noticed a curious power of changing its colour possessed by this animal. The tail, usually transparent, is sometimes quite black, and the body also becomes coloured when it buries itself in sand which would betray its ordinary grey tint. It conceals itself very readily and completely.

Of the rarer crustaceans of this group, not valued for the table, the *phyllosoma* is one of the most remarkable, from its extreme delicacy and perfect transparency. A species before undescribed (*P. sarniense*), has been found in Guernsey by Dr. Hilton.* The curious hermit crab (*pagurus*) is represented by two common species, and some of the delicate little species

* A specimen of the *Phyllosoma* found in Guernsey was described and figured in the Annals of Natural History as much as thirty years ago, by F. C. Lukis, Esq.

of *mysis* and *squilla* are described. There is no reason why many others of these curious and interesting animals should not exist in localities so extremely favourable for their development.

SCYLLARUS ARCTUS.

For the list of stalk-eyed crustaceans Mr. Lukis and Mr. Le Lievre are the chief authorities. It includes a large number of species that have not previously been recorded as inhabitants of the Channel Islands, and among them all the principal natural groups will be found represented. The isopodous and amphipodous species are also supplied by the same naturalist. The annexed admirably-drawn figure represents a curious Mediterranean species found in Guernsey. It has not yet been described as occurring in England.

Isopodous and Amphipodous Crustaceans.

(Sand Hoppers and Sand Fleas.)

ÆGA bicarinata.
ALIMA hyalina, *e.*
ARMADILLO vulgaris, *e.*
ASELLUS aquaticus, *e. i.*
BOPYRUS squillarum, *e.*
CERAPUS Whitii, *e.*
CHELURA terebrans, *e.*
CONILERA cylindracea, *e.*
CYMODOCEA truncata, *e.*
GAMMARUS fluviatilis, *e.*
grossimanus, *e.*
GAMMARUS
locusta, *e.*
pulex, *i.*
IDOTEA appendiculata, *e.*
linearis, *e.*
tricuspidata, *e.*
JAERA albifrons, *e.*
LIGIA oceanica, *e. i.*
LIMNORIA lignorum, *e.*
MONTAGUA
monoculoides, *e.*
NESÆA bidentata, *e. i.*
ONISCUS
asellus, *e.*
murarius, *i.*
ORCHESTEA littorea, *e.*
PORCELLIO lævis, *e. i.*
scaber, *e. i.*
SPHÆROMA Hookeri, *e.*
serratum, *e.*
STENOSOMA lineare, *i.*
TALITRUS locusta, *e. i.*

These curious little animals, including the sand hoppers, sand fleas, and many others, more familiar to the eye than known by name, abound on all sandy and rocky shores. Some (*bopyrus*) are parasitic on prawns, and other crustaceans; others (*talitrus*) are wonderfully active; a few (*oniscus, ligia, armadillo*) so closely resemble the common wood-louse in appearance and

habits, that they are not easily to be distinguished from them. They are very distinct in appearance from the group of crustaceans last mentioned, often closely resembling insects in appearance and habit.

A species, hitherto undetermined, of the curious group of podosomatous crustaceans, resembling a transparent spider, without head or body, has been found in Guernsey. Animals of this kind are very anomalous.

The list of species was obtained by the assistance of Mr. P. Le Lievre.

Entomostraca.

ARTEMIA salina.
CANDONA lucens.
CYCLOPS
quadricornis.
CYPRIS aurantia.
bisipnosa.
CYPRIS
compressa.
fusca.
ovum.
vidua.
Westwoodii.
DAPHNIA
pulex.
GALICUS
diaphanus.
LEPEOPTHEIRUS
orthagorisci.

These differ from the other crustaceans in some important points of structure. They are very minute, and often microscopic. Many of the genera have only one eye, some two, and several three. The most common (*cypris*) are enclosed in two small valves, instead of the articulated shell of the higher crustaceans. They have a vast number of pairs of legs, and the head can often hardly be distinguished from the body. Many of the species are parasitic, attaching themselves permanently to the gills of certain fishes. There can be no doubt that careful observation would add largely to the list of species in all the islands. The above list from Guernsey has been contributed by Mrs. Collings.

It may be well to state, that this group of crustacea, though the lowest in organisation, possesses great interest for the naturalist, and is largely represented in a fossil state. The determination of the species, and above all, the study of the animals and their habits in favourable localities, such as the Channel Islands, could not fail to be extremely useful.

Annelida and Turbellaria.

(Worms and Sea Worms.)

APHRODITA hystrix (sea mouse).
ARENICOLA piscatorium (sea worm).
CIRRHATULA, sp.
EUNICE Hamasii.
HERMELLA, sp.
LUMBRICUS terrestris (earthworm).
NEREIS phosphorescens.
PHYLLODOCE clavigera.
POLYNOE squamata.
PONTOBDELLA muricata.
SABELLA, sp.
SABELLARIA, sp.
SERPULA, sp.
triquetia.
SIGALION Mathildæ.
SPIRORBIS communis.
TEREBELLA, sp.

The above short list of annelids can only be regarded as an indication of the presence of a tribe of animals very little studied in those of the Channel Islands belonging to Great Britain. This is to be regretted, as none of the invertebrata are more interesting in their relations with those above and below them. They connect, in the most singular manner, by the tubulariæ downwards into infusorial animalcules, and by another branch of the same group with the echinodermata. The *aphrodita* or sea-mouse, connects upwards with the *chitonellus*, and the *sabella* with *dentalium;* both molluscs, but of very different kinds. They even connect directly with the lower fishes.

The marine worms are extremely remarkable for the great beauty and variety of their gills or breathing organs. They are admirably fitted to ornament the aquarium, and may be readily watched, if kept in a white basin. The *aphrodita* is especially interesting and beautiful, and is easily studied, owing to its large dimensions; but the various species of *cirrhatula* are wonderfully supplied with long filaments proceeding from the branchial plumes, and incessantly gliding about in living coils, or enclosing the animal in a case of fragments of sand cemented with slime. These and other animals of the tribe, and many of the more remarkable of the lower forms of animal life, are vividly described by M. de Quatrefages in his "Rambles of a Naturalist."

The Chaussey annelids have been examined by MM. Audouin and Milne Edwards, but no catalogue of the species has been obtained.

Radiata.

(Star-fishes, Sea-urchins, &c.)

AMPHIDOTUS roseus.
ASTERIAS aurantiaca.
ASTERINA gibbosa, *a. o.*
COMATULA rosacea, *e. i.*
CRIBELLA oculata, *e.*
CUCUMARIA pentactes, *e.*
ECHINOCYAMUS
  pusillus, *e. o. u.*
ECHINUS miliaris, *e.*
  sphœrea, *e.*
OPHIOCOMA bellis, *e.*
  minuta, *a. o.*
  rosula, *e. i.*
OPHIURA albida, *e.*
  texturata, *e. i.*
PALMIPES
  membranaceus, *e.*
SIPUNCULUS
  Bernhardi, *a. e.*
  Johnstoni, *o.*
SOLASTER
  papposa, *a. i. u.*
SPATANGUS
  purpureus, *i. u.*
SYNAPTA Duvernæa,*
  inhærens, *e.*
URASTER
  glacialis, *e.*
  rubens, *e. i.*
  violacea, *e.*

* Found in the Chaussey islands, by M. de Quatrefages. There is probably a third species.

The echinodermata are moderately abundant in the seas around the Channel Islands, and about one-third of the named British species are found there. The feather-star (*comatula rosacea*), represents the crinoids. There is a fair variety of sand-stars (*ophiura*), and brittle-stars (*ophiocoma*). The typical astereas—the cross-fish (*uraster*), the *cribella*, the sun-stars (*solaster*), and the birds' foot sea-star (*palmipes*), are all represented. The cushion-star (*goniaster*), is absent. There are several sea-urchins (*echinus*), a pretty little green-pea urchin (*echinocyamus*), and a heart-urchin (*spatangus*). The pea-urchin is particularly common in Herm.

Of another remarkable group of radiated animals, sometimes called *sea cucumbers*, there are also representative species. The *cucumaria* is one of these, having a number of warty suckers, arranged in rows on a fleshy, caterpillar-like body. The skin is leathery and smooth. It varies in colour from white to deep purple, and can change its form at pleasure and even become exceedingly hard. At one extremity are several tentacles (ten), and within them a complete dental apparatus and gizzard. No one looking at this curious animal would imagine that it belonged to the same group as the star-fish and sea-urchin.

The *synapta*, of which a species (*s. inhœrens*), was found, some time ago, in Bordeaux Harbour by Dr. Lukis, and given to Dr. Hilton, who subsequently took several, is another exceedingly curious and aberrant form of radiata. When taken, it is apt at once to break up into a multitude of small parts, and becomes lost; but when carefully examined, a vast number of small, anchor-shaped calcareous plates may be obtained, which formed the skeleton. These can only be made out under a powerful microscope. Another synapta (*s. Duvernœa*), had previously been described by M. de Quatrefages, as found in the Chaussey Islands, and is very lively; he says "In this animal, the walls of whose body were scarcely one-fiftieth of an inch in thickness, I could trace seven distinct layers of tissue, a skin, muscles and membranes. I perceived that the petal-like tentacles were furnished with cupping glasses, by which the synapta was enabled to ascend the polished surface of a glass, and finally I discovered that this animal, which appeared destitute of every means of attack or defence, was actually protected by a kind of mosaic, formed of small calcareous shields bristling with double hooks, whose points, serrated like the arrows of the Carib, had even penetrated the skin of my hands."—*Rambles of a Naturalist, vol. i. p.* 53.

All the synapta have the curious habit of self destruction; the creature when deprived of food, throwing off part after part, till nothing remains but a little spherical butt, crowned with tentacles.

Much remains to be done in this as in other departments of island zoology, but the best and most interesting results would certainly be obtained by dredging in moderately deep water. The recent discovery of a species of star-fish living in the depths of the Atlantic, suggests inquiries as to the limits to which many species, hitherto believed to reside near shore, may be able to reach without inconvenience, and also as to the food they are able to live upon.

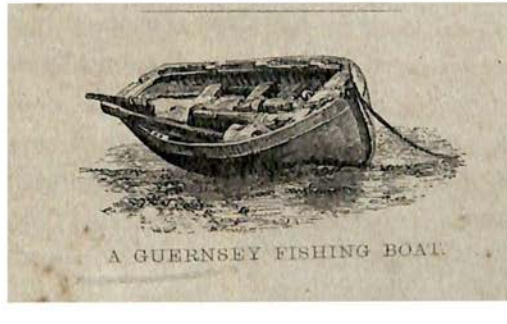
Acalephæ, or Sea Nettles.

AURELIA campanula.
BOUGAINVILLEA britannica.
CYANEA capillata.
LIZZIA Blondina,
LIZZIA octopunctata.
MEDUSA aurita.
RHIZOSTOMA pulmo.
SLABBERIA halterata.
THAUMANTIAS convexa,
THAUMANTIAS lucida.
pileata,
pilosella,
sarnica,
Thompsoni.

With the exception of *medusa aurita,* a common species in all the seas around the islands, the above were found in Sark in 1855, and Mrs. Collings, of that island, has been kind enough to communicate the list. There cannot be a doubt that many species inhabit these waters, not only of the *medusa* or jelly-fish, as known to fishermen, but of *beroe* and other allied genera. Many of the medusæ are phosphorescent, and give to the sea that remarkable luminous appearance occasionally seen.* Others have the power of stinging sharply, when handled in the water.

A curious fact has been observed by an intelligent Guernsey fisherman, with regard to the larger medusæ, which are sometimes two or three feet or more across. The young fry of some species of fish have been seen to come out from under the umbrella-shaped body of this animal, when disturbed; and return again to this curious shelter. A similar fact has been observed and recorded with regard to some small species of crustacea. It is probable that they seek food in such localities.

* The phosphorence of the sea is supposed, by some naturalists, to be rather due to the *noctiluca* and other microscopic infusorial animalcules than to the *acalephæ*, but it is certain that these occasionally assist.



A GUERNSEY FISHING BOAT.

Zoophytes.

ACTINIA fragacea, *e.*
mesembryanthemum.
α hepatica, *o.*
γ chiococca, *o.*
ADAMSIA palliata, *e.*
AIPTASIA
Couchii, *e. u.*
ALCYONIUM
digitatum, *e. o.*
ANTENNULARIA
antenninæ, *e. i. o.*
ramosa, *e. i.*
ANTHEA cereus, *e.*
α smaragdina.
β sulphurea.
AURELIANA angusta, *e.*
heteracea, *e.*
BALANOPHYLLEA
regia, *e.*
BUNODES
crassicornis.
gemmacea, *e.*
CAMPANULARIA
dumosa, *o.*
integra, *e.*
volubilis, *o.*
CARYOPHYLLEA
Smithii, *e. o. u.*
CERIANTHUS
Lloydii, *e. u.*
CLAVA multicornis, *o.*
CORNULARIA rugosa, *o.*
CORYNACTIS viridis.
α smaragdina, *o.*
β rhodoprasina, *o.*
CORYNE pusilla, *e.*
EDWARDSIA callimorpha, *e*
ENDENDRIUM rameum, *o.*
ramosum, *e.*
GORGONIA pinnatula, *e.*
verrucosa, *e. o.*
HALCAMPA
chrysanthellum, *e.*
HALECIUM halecinum, *e.*
HYDRA viridis.
HYDRACTINIA echinata, *o.*
LAOMEDIA gelatinosa, *o.*
geniculata, *e. o.*
LUCERNARIA auricula, *e.*
PEACHIA hastata, *e.*
triphylla, *e.*
undata, *e.*
PLUMULARIA cristata, *i. o.*
falcata, *e. i.*
frutescens, *e.*
pennatula, *e.*
pinnata, *o.*
setacea, *o.*
SAGARTIA bellis, *e. i. o.*
dianthus, *e. i. o.*
miniata.
α ornata, *e.*
β venustoides, *o.*
γ nivesides, *o.*
SAGARTIA
nivea, *o.*
parasitica, *e. i. o. u.*
rosea, *e.*
sphyrodeta, *e. i. o.*
troglodytes, *e.*
venusta, *e. o.*
viduata, *e. o.*
SARCODICTYON
catenata, *e. o.*
SERTULARIA
abietina, *e. i. o.*
argentea, *e. i. o.*
cupressina, *o.*
fallax, *o.*
filicula, *e.*
margareta, *o.*
nigra, *e.*
operculata, *i. o.*
pinnata, *o.*
polyzonias, *e. o.*
pumila, *i. o.*
rosacea, *e. o.*
rugosa, *o.*
THUIARIA thuia, *o.*
TUBULARIA
Dumortierii, *o.*
gracilis, *e.*
indivisa, *a. o.*
larynx, *e.*
ZOANTHUS
Couchii, *e.*

No one can visit the rocky bays, and look into the innumerable pools of water left at half tide on every part of the shores of the Channel Islands, without seeing evidence of their unbounded wealth in zoophytes. Of these animals, the so-called sea anemones (*actinia, anthea, bunodes, sagartia, Peachia, Edwardsia*), are now so familiar from their frequent recurrence in every aquarium, that we need do no more than mention the fact of their presence. The more common species *actinia mesembryanthemum* and *bunodes* (*tealia*) *crassicornis*, abound on rocks left uncovered at half tide, and in caverns to which the sea has access. In such places they often so completely cover the rock as to exclude other growth. The deep, reddish colour of the

common species, and the green and striped tints of others, scarcely less abundant, produces very striking groups, and when covered with water, and with their tentacles expanded, these animals offer a study of nature which cannot be rivalled.

But it is not only or chiefly for the sea-anemones, wonderful as they are, that the caverns and shores should be visited. The Gouliot caves boast of richer and more varied treasures, and are the objects of interest to so many naturalists for other zoophytes than these. The elegant and picturesque groups of horny tubes, with expanded flowers at the extremity, called *tubulariæ*, the equally beautiful and more varied, if less elegant, *sertulariæ*, the beautifully marked outline of the *caryophyllia*, the delicate little *plumulariæ*; all these are to be seen there alive, and growing with a degree of vigour and freedom rarely elsewhere noticed. The great range of the tide, the complicated character and gloom of these vast natural vaults, whose deeper recesses are not accessible more than a few hours in the year, are among the causes of this wealth. They may, with truth, be regarded as the *grüne Gewölbe* of the Channel Islands. They are green treasure houses, where, instead of the accumulated stores of mediæval art, such as are lavishly spread out in the chambers so named in Dresden, we find all that is brightest and richest, and most varied of nature's work. There is, however, one curious difference. The beauty of form and richness of colour is here confined to animals whose structure is of the simplest kind, and all we see of life is in a form that involves the smallest possible expenditure of other substance than sea-water. Removed from their natural habitat and exposed to the air, these treasures, like fairy money, vanish and evaporate. The largest and heaviest individuals, even if carefully preserved, scarcely yield more than a few fractions of a grain of residuum, and, with all the colours of the rainbow, and varied forms imitating trees and flowers, there is no more substance in them than in a soap bubble.

Many caverns and broken rocky coasts might be pointed out all well worthy the careful examination of the zoophytist, in addition to those commonly visited. The caverns near the Grève de Lecq, and the shore under Cape Grosnez, in Jersey, may be mentioned as examples. Neither locality is much less accessible than the Gouliot caves. But it is not every half-tide cavern that is thus inhabited, and there seems a degree of capriciousness in the selection of a dwelling-place not easily to be explained.

The list of zoophytes is supplied from many observers. The Misses Le Lievre of Guernsey; Dr. Hilton, who has resided in Guernsey; Mrs. Collings of Sark; Mr. Piquet, of Jersey, have been the principal local contributors; and species have been added by Mr. Busk and other occasional visitors, among English naturalists.

Foraminifera.

The *rhizopoda* or root-footed animals, whose calcareous shells or hard coverings are called *foraminiferous*, from the holes that communicate from cell to cell, are, for the most part, microscopic. Simple cells are secreted by minute animals, but a multitude of like individuals, derived one from another by a growth similar to that of a plant, are usually found together, the whole inhabiting one shell. The law of growth and the circumstances that govern the arrangement of the cells is at present little known, but whatever these may be, they admit of much variation of form from local conditions. The original chamber is generally circular or bottle shaped, but the form of the compound groups usually met with, is often extremely complex.

A very large proportion of the shells of this kind found in the seas around the Channel Islands, belong to various species of *cristellaria* and *rotalia*. The determination of the species is unsatisfactory, inasmuch as the extent of variation of form of which any species is capable is quite unknown.

Sponges.

DESMACIDON ægagropila.
DICTYOCYLINDRUS
ramosus.
DYSIDEA fragilis.
GRANTIA
ciliata,
compressa,
ensata,
tessellata.
HALICHONDRIA
corrugata,
incrustans,
infundibuliformis.
mammillaris,
panicea.
HALICLONA oculata,
HALICLONA seriata,
simulans.
HALINA Bucklandi,
carnosa,
suberea.
HYMENIACIDON
albescens,
caruncula,
eclata,
crustula,
sulphurea.
ISODICTYA
cinerea,
fucorum,
indistincta,
mammeata,
ISODICTYA Normani,
pallida,
Peachii,
rosea.
LEUCONIA fistulosa,
nivea.
LEUCOSELENIA
botryoides,
coriacea,
contorta.
MICROCIONA armata,
atra sanguinea.
PACHYMATISMA
Johnstonia.
TETHEA Collingsii,
Lyncurium

The above list has been communicated by Dr. Bowerbank, F.R.S. It includes no less than sixteen species hitherto unpublished; but of which descriptions will appear in his work on British Sponges, now on the point of publication.

It is chiefly in the Gouliot caves in Sark, that these sponges have been observed, but many of them are to be met with in all those accessible rocky bays and caverns that are covered during a large part of each tide. Some, as *Grantia ensata, G. tessellata, tethea Collingsii,* have never yet been found on British coasts; and as they are very remarkable, it is not likely they should have escaped the eye of British naturalists, had they really been present. The little sponge in the annexed cut is common enough on all the shores.

Grantia compressa.

Dr. Bowerbank observes, in a note he has been kind enough to add to his catalogue, that there are some interesting points in the characters of the marine species of the Channel Islands' fauna, from which it would seem that these shores and those of the south of Devonshire, are included in overlapping bands of the British and Mediterranean faunas. At Tenby and on parts of the Devonshire coast, are many species of sponges not found

further north, but common in the Gouliot caves and elsewhere in these islands. Among them are *pachymatisma Johnstonia, hymeniacidon caruncula, microciana atrasanguinea, isodictya rosea* and *halina Bucklandi.* A similar overlapping takes place in a broad belt extending from about Scarborough to the Scottish Border on the east, and from the coast opposite Scarborough to the Hebrides, on the west. Here, also, there is a mixture of the spongiadæ that belong to the northern, with those of the southern seas, while on either side occur species that do not cross the line. These peculiarities are not, however, confined to the marine fauna.*

The Gouliot caves, where the lower forms of animal life are so richly distributed, rival the celebrated caves of St. Catherine's Island, near Tenby, in abundance of specimens, and far surpass them in dimensions. It is impossible to visit the Gouliots without finding much that is interesting; but when the visit is made under favourable circumstances of tide, wind and weather, the phenomena are far more striking than can be understood from the most vivid and elaborate description.

The Gouliots, however, are not the only spots where sponges can be observed. Along the south coast of Guernsey and also on the northern extremity of that island, in many parts of the Jersey coast, and on the shores both of Sark and Alderney, they may be found and examined with advantage, owing to the rough and irregular character of the rocks, the countless multitude of rock pools, and the extreme range of the tide. These causes have already been alluded to in speaking of the distribution of the zoophytes.

The minute naturalist who pursues and discovers new beauties

* Dr. Bowerbank is anxious to express his great obligation to Mrs. Collings, wife of the seigneur of Sark, to the late Mrs. Buckland, and to the Rev. A. M. Norman, of Sedgfield, Durham, who have assisted him with material, in addition to that obtained by himself during two visits to the Channel Islands, made for the purpose of observing and collecting the spongiadæ.

in every nook and on every rocky prominence, will be amply rewarded in all the islands, and may with little difficulty enjoy the unusual satisfaction of watching, without interruption, the habits of the animals in their natural haunts.

This is perhaps one of the chief attractions of the whole group, and it is limited to none of the islands. The mere collector will obtain a multitude of beautiful and rare specimens, and the discovery of the animals themselves, in their habitations, can hardly fail to excite a taste for the pursuit of the higher branches of natural-history study, and an investigation into the laws of existence of these simple animals.

On the next page will be found a summary, in a tabular form, showing the details of the zoology of the Channel Islands.

Little need be said here in explanation of the table, or in addition to the remarks already offered concerning each separate group of animals. That the Channel Islands are rich in most departments of animal as well as of vegetable life, that the island naturalists as well as strangers, have, with great labour and success investigated certain departments of the fauna as well as flora, and that the general interest of the district is unusually great, will be at once seen. That very much yet remains to be done in many important departments, is equally clear; and there is ample room for all in the investigations required. Whether on land; on a sandy or rocky shore above high-water mark, or in that wild and interesting field that intervenes between tides; or in those deeper recesses which the water never leaves;—life is ever present, and the forms of animal life are so rich, varied and beautiful, that no one need tire of the pursuit of natural history when placed within their range. The statements and lists given in this and the preceding chapter, will, it is hoped, be useful as marking a distinct position in natural-history knowledge, from which advance may be made in every direction.

General Summary of the Fauna of the Channel Islands.

	Alderney, (a).	Guernsey, (e).	Jersey, (i).	Sark, (o).	Herm, (u).	Total Species.
Mammalia	16	19	19	16	15	26
Birds	?	192	?	83	?	198
Reptiles	1	3	7	1	1	7
Fishes	—	—	—	—	—	129
Cephalopoda	—	—	—	—	—	5
Gasteropoda proso-branchiata and Pteropoda	?	169	?	?	63	173
Gasteropoda pulmonifera	?	51	?	25	8	54
Gasteropoda nudibranchiata &c.	?	26	?	16	?	29
Conchifera	?	140	?	28	70	145
Tunicata	?	45	?	?	?	46
Polyzoa	?	30	?	44	?	67
Coleopterous insects	?	516	?	?	?	572
Orthopterous insects	?	?	8	?	?	8
Neuropterous insects	?	?	13	?	?	13
Hymenipterous insects	?	?	43	?	?	43
Lepidopterous insects, Butterflies	?	30	39	?	?	43
" Moths	?	330	303	?	?	474
Hemipterous and aphanipterous insects	?	?	18	?	?	18
Dipterous insects	?	?	?	?	?	35
Myriapodous insects	?	?	?	?	?	6
Spiders	?	17	?	?	?	17
Cirrhipedes	?	9	?	8	?	16
Stalk-eyed crustaceans	?	55	?	?	?	57
Isopodous and amphipodous crustaceans	?	27	?	?	?	30
Entomostracous crustaceans	?	13	?	?	?	13
Annelida and turbellariæ	?	?	?	?	?	17
Radiata	?	20	?	?	?	24
Acalephæ	—	—	—	—	—	14
Zoophytes	?	66	?	?	?	85
Foraminifera	—	—	—	—	—	2
Sponges	?	?	?	?	?	40
				Total		2406

N.B.—Named varieties are counted as species.

CHAPTER X.

GEOLOGY AND MINERALOGY OF THE CHANNEL ISLANDS.

Ancient Formations.

In no part of Europe, and in no group of islands readily accessible, are the physical geography and geology more closely related than in the Channel Islands. The tongues and spurs of porphyritic rock, of which almost all the promontories of the Atlantic coast of Europe consist, are well illustrated in Western Britany and in Cornwall, and not less so in the intervening rocky groups. Better able than most of the secondary rocks to resist the constant action of the sea, these rocks show themselves, partially denuded and generally rugged, in the neighbourhood of Cherbourg and Cape la Hague, but they appear in perfection in a succession of spurs pointing westward, forming the groups which together compose the islands we are considering.

Exposed from their isolated position to the never ceasing beating of the waves during their elevation, these islands have been deprived of most of the covering of stratified rocks they may once have possessed, and except a patch here and there in the more sheltered positions, scarcely any indication exists of those deposited rocks that abound on all sides of them, and give variety to the geology of England and France. None of the

old fossiliferous rocks appear, not a particle of stratified limestone of the secondary period is to be seen, and not a single patch of the old tertiaries that are so nobly represented on the opposite shores of Hampshire, and in the Isle of Wight, has ever been discovered.

All is rude and bare and the mere skeleton of that rich and varied structure to which we are elsewhere accustomed; so that at first sight it may seem—as it has indeed been generally stated—that the geologist has here little opportunity for investigation, and need only record the fact of the existence of such and such varieties of rock in certain localities.

But the comparative anatomy and natural history of the earth, like that of its inhabitants, must be learnt from the skeleton. It is where the old, hard, nether-formed rocks frowningly appear above the water, where they are exposed in broad tabular masses laid bare by the waves, unclothed with soil, uncovered by sand and pebbles, that this history can best be learnt. It is there that natural sections of them may be studied, showing all varieties of early structural change, and the later action of water, and of constant change of temperature. Under such circumstances, when they form hills rather than mountains, and cliffs that may be approached rather than precipices that can be looked on only from a distance:—where they have been exposed to all varieties of change and disturbance:—where they have been undermined and torn into shreds, but are still struggling with apparent success against their inevitable fate, that we read most of the great lessons they were intended to teach.

For such reasons, and used in such a manner, the Channel Islands afford an admirable school for the geologist. The field is one which has not too many cultivators, but it will amply repay any amount of labour. There is, probably, no area of equal extent even in England, that presents more variety of detail, or from which more may be learnt.

The points of interest, although numerous and important,

are concentrated at the two extremities of the geological scale. They involve inquiries concerning the mode of production and subsequent change of most varieties of crystalline rock and mineral veins, and thence they pass at once to the latest changes that have taken place upon the earth.

On the one hand, we have numerous phenomena exemplifying the laws of composition and the original structure of the rocks called igneous, such as the syenites and porphyries, and other hypogene rocks. We learn the history of the stratified form of these rocks; the nature, extent, and cause of the various systematic clefts or fissures by which they are very generally intersected; the minerals and rocks by which the fissures have since become filled. We may learn, also, the nature of those modifications by which the rocks and systematic fissures or veins have been affected since their original formation, and the external or mechanical changes, whether of squeezing, elevation, depression, or weathering, either by sea wave or atmospheric exposure, to which they have been subjected. The consideration of questions of this kind is in itself of the highest importance in geology, and it leads to results of great practical value connected with the presence of metaliferous wealth, the applicability of stones for various purposes, and the origin and nature of soils and subsoils.

There is another department of geology, in regard to which the Channel Islands are full of instruction. This relates, as we have stated above, to the last changes that have taken place upon the earth; it considers the disturbances and deposits whose date is historical rather than geological, and which result from causes still in operation at the same place. The deposit of peat, or of rolled pebbles and stratified sand; the removal of other similar deposits already bedded; the breaking through of barriers, more or less natural, and the introduction and operation of various forces, visible and calculable; the mode in which rocks are undermined, weathered, broken up, and carried off in

fragments by the sea; and the small upheavals or depressions imperceptible to the eye, but of recent date, which have helped or hindered the sea and the weather in their destructive course: these together form a class of phenomena, which are, as it were, the very grammar of geology; phenomena which cannot be studied too closely, or known too familiarly, and which afford subjects for investigation, not less interesting and useful than any others.

Since, however, the two classes of geological phenomena in the islands are so distinct, they may with advantage be considered separately. Let us begin with the group first alluded to, the crystalline and metamorphic rocks, including syenites and porphyries, together with shales, schists, slates, sand-stones, and conglomerates, of whatever date.

Metamorphic Geology of the Channel Islands.

It may be well to state, that by the term *metamorphic*, is here meant not that the rocks so called have lost all evidence of originally mechanical origin, but that their early history, mechanical or otherwise, has been either masked, or is obliterated by subsequent chemical action on a large scale. No doubt most, if not all, were originally mere mixtures of various common minerals, quartz or flint, clay, lime-stone, magnesia, iron-oxides, potash and soda, manganese and fluorine, in various proportions, compacted together under certain conditions of temperature and pressure. These materials have, since their original accumulation, been exposed for a long time to the action of uniform high temperature in the presence of water, and have been acted on by currents of magnetic electricity circulating near the surface of the earth. In this way they have in time been elaborated into rocks, and the whole compound mass has subsequently undergone important changes.

Out of the materials just named, or some of them, have been

derived the following simple minerals and rocks, found in more or less abundance throughout the Channel Islands—felspar, mica, chlorite, hornblende, serpentine, steatite, quartzite and horn-stone, syenite, granite, and various porphyries; besides argillaceous and chloritic schists, and many others. All these occur here, much as they are found elsewhere, and may be described in chemical language as compound silicates of alumina, magnesia, lime, and other bases. These, have, perhaps, originally formed sand-stones, lime-stones, and clays; but with their previous history we have nothing to do. We know them only as they are now presented to us, metamorphosed into crystalline rocks.

When in these rocks the crystalline texture pervades the whole, a true porphyry is obtained; in other words, a number of crystals are seen embedded in a crystalline mass. Such rocks occur in large abundance in all the islands. Beautiful angular crystals of pale flesh-coloured felspar are embedded in quartz,—sometimes of a pure transparent kind, sometimes blackened with iron or carbon. Beautiful and perfect crystals of hornblende are embedded in milk-white or dark-coloured quartz. Delicate crystals of mica are found in quartz. Large and beautiful crystals of felspar, of the richest pink, are accumulated in rock masses. All these may be seen in almost every one of these rocky bays indenting the coasts of all the islands, and on every pebble beach. In some places, beautiful pale green crystals of actinolite or epidote are either embedded in or plastered, as it were, upon quartz; and not unfrequently the crystals of hornblende or felspar are mixed in the quartz paste with sparkling flakes of mica.

When, however, the crystalline texture exists, but is overborne by a mechanical structure, causing the mass to appear as if in regular layers or strata, the rock that would otherwise be granite is called gneiss; and in proportion as the mechanical or crystalline appearance is the more distinct, the terms gneissic

or porphyritic are applied to distinguish rocks essentially alike. The stratified or tabular appearance of the crystalline rocks in the Channel Islands is one of their most remarkable characteristics.

There is ample evidence that all rocks of the kind we are now speaking of have been formed at a high temperature (though far below the melting point of any of the constituents), under the great pressure of a large superincumbent mass of rock, and in association with water.

Any one, whether geologist or not, who will reflect a little on the probable mode of formation of crystalline rocks, and of what must happen before they are brought to the earth's surface, will have little difficulty in understanding the cause of some of the appearances that are most characteristic of them. Assuming a granitic rock to have been formed at a high temperature under great pressure, it may well be supposed that if the pressure is removed to any extent, but the heat diminished in a greater ratio, the rock, in cooling, must undergo contraction, the mass splitting as it becomes hard. Such fissures originate on the upper or cooled surface, but may be continued downwards to any depth. If, however, they are followed by an elevation of the whole mass, the widest part of the fissures will ultimately be below. Such changes taking place gradually, and while there is still communication with the less cooled matter below, the chasms and fissures formed during cooling and elevation will be filled up by minerals, which contain generally the same elements as before, though being crystallised in changed proportions, and at a slightly different rate of cooling, new combinations are introduced. There may be a complete filling up of the fissures in these cases; and owing to the difference alluded to, the mineral in the vein may be either more or less completely crystalline, more or less like in its mineral character, and harder or softer than in the original rock. Sometimes when the crust or enclosing rock contains particular minerals in small quantities, the vein will contain them in larger proportion. Sometimes, when the cre-

vice is of the nature of a bleb or closed cavity, such as is seen frequently in glass or lava, the inside will be filled by crystals shooting inwards from the walls towards the centre. As, however, the uplifting of a mass of granite to the surface from the place of its formation slowly progresses, the very veins themselves that have been filled up will also become split open, and new fissures will be formed, rending asunder the material that has already filled chasms of older date. More frequently, systems of cracks will cross other systems, producing a great apparent complication. Many of the crevices of later date will, in time, become filled up from below; while others, not accessible directly from below, will be acted on indirectly by vapours, or by structural changes produced in the mass of the rock, tending to separate out the various accidental substances that it contains from the rock itself, and collect them in the empty spaces. It will also occasionally happen that a wide crevice becomes filled with fragments of rock fallen in from above. Thus is produced the vast net-work of veins or intersecting chasms, some empty, but most of them filled up with foreign substances, so characteristic of all districts where granite abounds. These phenomena are admirably illustrated in the Channel Islands.

But the mechanical force acting from below that has brought up the granite to the sea level must, in doing so, have squeezed its upper surface against a heavy overlying weight of rock and water before overcoming its inertia. Thus: if formed ten miles beneath the surface, (a depth only double that of the highest point of land above the sea) the mere weight of the overlying material, supposing half that depth to be rock and the rest water, would amount to 2,500 tons on every square foot of surface; and the pressure from below sufficient to overcome this, and lift up the mass, would inevitably produce the greatest mechanical change in those rocks having the smallest amount of elasticity. The effect of pressure on plastic matter is known by actual experience to produce that fissile structure of which slate

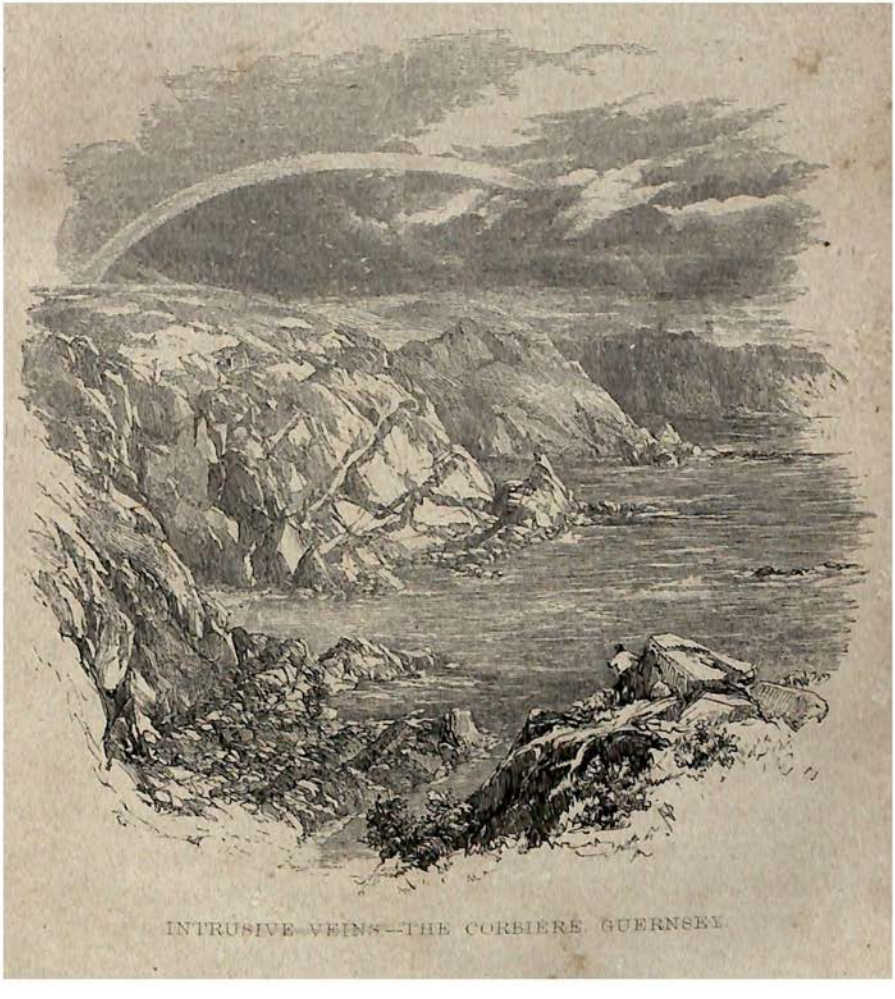
is the best example, and it may, in this case, have originated the gneissic varieties of granite and porphyry especially common in Guernsey.

The systems of crevices and fissures traversing the granitic rocks; the compass-bearing of the principal veins, the materials with which they are filled, and the relation these bear to the enclosing rocks; the nature of the subordinate veins and their contents; the threads of quartz that form the final delicate interlacing; the passage of certain rocks into each other, and the transfer of materials originally contained in the larger fissures into those smaller crevices traversing them; the presence, in certain cases, of so large a proportion of metaliferous mineral as to give to the veins the character of ores;—such are the chief points that will require notice in this division of our subject. They must be alluded to systematically in reference to each of the islands.

In a general sense, the rocks will be regarded as syenites (quartz, felspar, and hornblende), or other varieties of porphyry, according to their composition. The hornblendic rocks, consisting of hornblende and felspar (the former known by its dark green colour, and the latter by its flesh tint), pass into greenstones, and then, by the replacement of actinolite (a pale green mineral) and prehnite or epidote, assume new and very characteristic forms. It may be convenient for the reader to be reminded that magnesia is the elementary substance chiefly concerned in these modifications; and that *asbestos*, *talc*, *serpentine*, and that curious soap-like mineral, called *steatite*, or potstone (abundant chiefly in the middle of Sark, but found elsewhere), are all minerals in which the magnesia element prevails. In all these minerals there is also more or less of a green colour, and soft saponaceous touch observable. *Chlorite* is an abundant rock everywhere. It is a silicate and sub-aluminate of magnesia and iron.

No one can walk much along the shore, or climb the cliffs of

any of the Channel Islands, without being struck by the tendency in many of the rocks to assume either a tabular or terrace form. This is expressed sometimes by calling the rocks *trap*, from the Swedish word *trappa*, applied by the earlier geologists to basaltic and other volcanic rocks. It is, however, an expression that is not unlikely to mislead, as connecting the greenstones with rocks with which they have no other relation than that of form. There are, no doubt, in the islands many examples apparently indicating the presence of lava or recent volcanic



INTRUSIVE VEINS—THE CORBIERE, GUERNSEY.

action, but these are deceptive, there being no relation between the blackened surfaces and cellular rocks alluded to and any true igneous rock.

Striking examples of intrusive horizontal veins of greenstone may be observed in all the principal islands. In Alderney, an example has already been figured in the title to the first part of this work (page 1). In Jersey, equally picturesque but very different illustrations are seen, both on the north coast, near la Houle, and on the north-west coast, near Cape Grosnez. In Guernsey, the engraving on the last page is an instance not less picturesque than instructive of an almost identical phenomenon.

In all these cases the nearly horizontal veins simulate very closely the appearance of steps, and are therefore trap rocks in one sense, though certainly not by any means in the sense of vesicular lava connected with a volcanic eruption.

The granites, syenites, and other porphyritic rocks of the coast of Britany recur, as we have already reminded the reader, in the Cotentin as well as in Cornwall. The bottom rocks of the Channel, if we judge only by the islands and rocks that rise above or approach near the surface, are of similar material; but it by no means follows that this is the case uniformly across the whole sea. The great east and west elevations affecting the continent of Europe, and well illustrated in the lofty chains of the Alps and Pyrenees, have no doubt been the main causes of the hard and rugged promontories that jut into the Atlantic ocean at so many points. But the dying out of the east and west elevatory force is marked by the diminished height of the granite as we advance westwards. A glance at the map accompanying this volume, and a moment's consideration of the meaning of those shadings which reveal the shape of the sea bottom within certain limits of depth, will form the best introduction to a detailed study of the geology of the Channel Islands. It will there be seen, that if a uniform elevation of any extent were now to take place in this part of the sea, the form of the French coast

would be greatly modified; for such elevation, even if to a very small extent, would include the largest island and the largest shoals as parts of the main land of Europe. While, however, ten fathoms would do this, a much greater elevation would do very little more.

On the north side of the northernmost of the promontories that would exist if the elevation were sufficient to include all the islands, there yet remains in numerous patches a considerable part of a deposit of sand-stone that was once connected with the main land of France; but the rest of this northern promontory consists of a hard syenitic and porphyritic floor, on which the sand-stone has reposed,—the banks of sand in the sea adjacent representing all that remains of the rock once covering the floor.

The islands of Guernsey, Herm, and Sark, with the smaller islands and rocks adjacent, would, by the elevation assumed, form another promontory. No deposits more recent than the old syenites and gneiss, except a few modern sea beaches and some accumulations of sand and fallen rock on the side of a cliff, can now be found on any part of this tract.*

The island of Jersey, the Minquiers, and the Chaussey islands would be far within the coast line. Jersey is much less denuded than Guernsey, and many varieties of crystalline and metamorphic rock and some deposited sand-stones and conglomerates still remain, and indeed cover a large proportion of its surface; but the Minquiers and Chausseys are mere shreds of syenite.

Now, let the reader imagine, instead of a sudden elevation of the present sea-bottom, that at a certain period the whole district was 180 feet lower than at present, but was then partially covered with rocks concealing those now visible. Let him also suppose a gradual elevation to take place, exposing the surface as it emerged to the action of the waves. The result must be the production of the present state of things, namely, a number

* A small patch of clay slate in Rocquaine Bay is hardly an exception to this remark.

of islands, rocks and shoals, chiefly of syenite, instead of a continuous tract of land or sea-bottom, composed of a variety of deposited rocks.

An enquiry into the conditions of the surface will reveal a mass of evidence, proving that something resembling this gradual elevation and denudation of softer material has actually taken place, but it must not be supposed that such elevation has been uniform or rapid. On the contrary, there is distinct proof that it has been partial, and that it has alternated, especially in recent times, with one or more partial depressions.

The porphyritic back-bone, on which the material of the various promontories and the old island were once accumulated, is now laid bare in many places; but the two naked and entirely denuded axes of Guernsey and the Chaussey islands afford, perhaps, the most instructive examples. With Guernsey we associate the adjacent smaller islands, and the Chaussey Archipelago and the Minquiers are in a similar way related to each other. The outlying rocks of the Douvres belong, perhaps, rather to the coast of Britany; but they, also, are probably shreds of granite.

All the islands and rocks of the two groups just alluded to are porphyritic; but the crystalline rocks seen in Guernsey at its greatest elevation along the southern part assume the stratified appearance of gneiss. That this is a mere mechanical condition of the upper members of the rock, we have already hinted; but it creates a marked difference of appearance, and involves a geological difference, since the northern part of the island thus consists of rocks decidedly lower in geological position than the southern. ••

Alderney and Jersey, besides the syenitic porphyries, which, however, form everywhere the prominent rocks, and are at no great distance from the surface, are partially covered. They thus connect the various members of the group with each other, with France, and with England.

One very important peculiarity pervades the porphyritic rocks of all the islands, namely, the presence of magnesian minerals. The granites are syenites; and the varieties of hornblende and hypersthene, with chlorites, serpentines and mica, all abound, to the exclusion of the varieties technically included under the term granite.*

In all the islands, without exception, the porphyritic rocks, of whatever kind, are remarkably broken and fissured by mineral veins, often with great regularity and system, and of all dimensions, from a mere film to many yards in width. The prevailing direction of the principal and older sets of veins is east and west, parallel to the general axis of all the spurs of hard rock which have escaped destruction by the sea. Broad deep fissures filled with minerals of various kinds, but rarely metallic, exist also at right angles to these. The less important systems of veins intersect these at various angles, and often break up the rock into small prisms.

Most of the veins are filled up with hypersthenic rocks, coming under the general denomination of greenstone, and consisting of silicates of magnesia and iron, with lime and manganese. But, although such magnesian silicates are certainly predominant, it must not be supposed that they are always present. On the contrary, there are noble instances of veins filled with rock-crystal, felspar, calc-spar, and even epidote; while occasionally may be found large masses, as well as true veins, of serpentine and steatite, soft mica and various asbestiform minerals (magnesian). Chlorite, also, is exceedingly abundant. There are many veins of soft clay coloured with iron, others of oxide of iron, and others again of quartzy minerals containing iron, manganese, silver, lead, and copper.

As must inevitably be the case, the enclosing rock and its

* The varieties of hornblende contain from 12 to 30 per cent. of magnesia. Syenite contains hornblende instead of mica (a component part of true granite), and the ordinary varieties of mica (not *biotite*) contain potash and not magnesia.

veins are of different degrees of hardness, and the equal action of the sea on rocks of unequal hardness, has produced those long lines of projecting rocky islets, the many narrow inlets, and the lanes intersecting the floors of rock between low and high water mark, characteristic of all the islands. An extreme complication of the vein-systems is beyond a doubt the original cause of this peculiarity.

Almost every described variety of anhydrous quartz rock may be found in the islands. Quartzite, chert, hornstone, and jasper, are especially common. The varieties of opal have not been seen.

Let us proceed now to a special consideration of the metamorphic geology of the various islands. In preparing this, few materials are available that have already been published, and no one has hitherto attempted to suggest a connected view of the bearings of the structure on the physical geography of the district, although in this certainly consists the chief general interest of the subject.*

The central and main elevation of the Channel Islands is probably that which passes through Guernsey, ranging about W.N.W. and E.S.E., and bringing the lowest rocks into view on the northern half of that island. These rocks are of dark bluish grey colour, remarkably fine grained, excessively hard, heavy, and tough. They consist of hornblendic porphyries, chiefly syenites, and occasionally pass into hornblende rock, and in some places on the western side of the island into flesh coloured

* The published accounts of the geology of the Channel Islands with which the author is acquainted, are the notices by Dr. Macculloch, in the Transactions of the Geological Society; some remarks on Guernsey, by Mr. Lukis, published in Babington's Primitiæ Floræ Sarnicæ, Duncan's History of Guernsey, and elsewhere; and the notices by Mr. Godwin-Austen, published in the Report of the Meeting of the British Association, at Birmingham, in 1849. Since the latter publication, and a subsequent note in 1851, in the Quarterly Geological Journal, also by Mr. Austen, no account of original researches seems to have appeared. Only Jersey and Guernsey have been alluded to by Mr. Austen.

syenite. On the east side, where it is hardest, this rock is very extensively quarried, to be exported to London, and elsewhere, as road metal, for which it is admirably adapted. On the west side it is better fitted for monuments and building purposes. It is there rather less tough; felspar being much more abundant in it, and hornblende rarer.

North of the line containing the best and hardest syenites, there is comparatively little change in the nature of the rock; but further south, and before reaching the higher table land, it passes into hornblende rock, often splitting with great regularity, and assuming the schistose character which belongs to the rocks further south. As in all porphyries, and indeed in most kinds of stone, there are particular veins or portions, harder and more valuable than other parts, adapted for special purposes, but differing little in lithological character from the mass.

The high table land of Guernsey may be described as consisting of syenitic gneiss, intersected by numerous large veins, and by innumerable small veins of magnesian minerals. The gneiss is a mere mechanical variety of syenite. The veins —as indicated in the view of the Corbiéres (see p. 255), are sometimes very striking phenomena. They traverse the gneissic or porphyritic rocks in various directions, sometimes horizontally, but more frequently vertically. The example at Les Thielles, on the south coast, is very striking, and is easily accessible, but several of the adjacent small coves present equally remarkable illustrations. The great magnitude and extreme complication of the veins at Les Thielles, and the condition of the greenstone, (the principal material with which they are filled) would seem to indicate this locality as near the central point of disturbance in the uplifting of the porphyritic floor of the Channel Islands.

At various places the gneiss passes into a more compact and less schistose form, and, in fact, becomes syenite. The nature and hardness of the rock change frequently, its colour also

varying; but the chief element of variety and picturesque beauty is, beyond all doubt, derived from the large proportions, irregular direction, and variable hardness of the veins, the sea thus obtaining a degree of influence in modifying the coast, quite unusual in granite districts.

In many cases in Guernsey, the veins consist of a decomposing greenstone, and as the sea and weather act rapidly on such material, small bays are produced, terminating in caverns, as at Petit Bot, and Moulin Huet. In other places the veins are hard, quartzy, and resist action, whether of sea or air, more than the gneiss; and such veins, particularly if in sets, form projecting capes, as at Moye Point. Not unfrequently the intersection of several veins is accompanied by a nucleus of hard material, and then, as at Icart, the softer material becoming worn away, peninsulas, islands, and detached rocks result, as successive phenomena.

At Jerbourg there is something of the same kind. The cliffs are there chiefly composed of a very much intersected and mixed rock, extending from Jerbourg Point to Castle Cornet. Throughout this part of the island there is an irregular appearance of stratification, the inclination tending to the south. The veins are equally irregular, but show a tendency to cross the apparent dip at right angles.

Herm and Jethou, and the intermediate and adjacent rocks and islands, differ no more from Guernsey than the rocks of Guernsey differ from each other in the course of a few hundred yards of coast. The same peculiar disintegration on a large scale, the same systematic eating in of the sea, the same destruction of the coast, is everywhere manifest; but, on the whole, the lines of destruction are more regular and parallel.

The axis or main direction of the rocks in these detached islands and rocks, as well as of the sea passage or hollow that intervenes between them and Guernsey, on the one hand, and Sark on the other, is, however, at right angles to the elevation

axis of Guernsey. It ranges a little east of north and west of south, and is probably modern, corresponding rather with recent elevations and depressions than with the original upheaval. It is necessary that the reader should bear this in mind, as it greatly facilitates an understanding of the present condition of the islands. It explains the apparently contradictory fact, that while the general axis is north and south, many of the largest and oldest veins in these islands run east and west; and the result is important, as the coast is thus exposed to a double action of the sea. The torn condition so peculiar to the islands, as well as the wonderful caverns and *creux* with which they are penetrated, are among the consequences of this condition.

The veins in Herm are especially interesting. There is one at the back of the island of very large size, running across more than one projecting headland, nearly in a south-westerly direction, consisting entirely of black micaceous rock, very soft after exposure to the air. The sea has naturally made great inroads on this rock, but it is protected by hard walls. There are other veins of soft clay and some of decomposing greenstone. Traces of copper have been observed in some parts of the island.

Sark, in its geology, as in every department of its natural history, is rich and interesting. Surrounded entirely by cliffs, which are everywhere almost vertical, and of which the composing rocks are varied to an extent greater than in Guernsey, the rocks are intersected by large and rich veins, which in one or two cases have been found to contain a considerable though not remunerative yield of rich silver ore. All the phenomena that characterise the other islands are presented in this little rock on a larger and better scale than elsewhere, while its caverns are so much finer and more instructive than those of any other granitic rocks on the coasts of Europe, that they alone are well worthy of a pilgrimage from any one who desires to become acquainted with nature's power in this respect.*

* The peculiarity of Sark is derived rather from the wonderful amount of variety

Standing on the cliffs at the Point du Chateau, near the middle of the eastern side of Sark, it is impossible to look at the rocks, either to the right towards Little-Sark and the Tas, or to the left at Point du Derrible, without being struck with the singularly hard, unyielding nature of the main rock, and the slowness of the effect obtainable, even by the incessant beating of the tidal waves of a disturbed sea, except where veins of soft material have permitted an undermining action. Such veins, however, in large numbers, cross the axis of Sark at right angles; and the multitude of caverns, some now existing, some partially formed, some obliterated, or of which bare traces remain, mark this peculiar geological feature. They also illustrate the fact, that the older fissures, due to early elevation, range east and west, corresponding with the direction of the promontories; while the modern upheavals range rather in a north and south direction, separating and destroying the continuity of the elevated masses.

The predominant rock in Sark is syenite, and the principal veins are of greenstone, with felspar walls. But besides these, there are numerous veins of asbestiform minerals, of serpentine, and of soft clayey matter, and some strings of quartz. The veins being at right angles to the apparent cleavage or bedding, the whole rock is broken up into cubes or rhombs, forming, as is well seen in those curious rocks, the Autelets or altars (see engraving, p. 287) a curious pyramidal appearance of detached rocks, not less picturesque than interesting, and exemplifying the structure perfectly.

Large quantities of actinolite occur in many parts of Sark, especially on the east side; and an important vein of serpentine, and steatite, with asbestos and talc, has been traced crossing the central part, near Port du Moulin. The bedding of these rocks is nearly horizontal, and the veins are very highly inclined.

observable within an exceedingly small area, than from the absolute magnitude of the phenomena. It is probably unrivalled in this respect, although, of course, the granite phenomena on the Scandinavian coasts are both wilder and grander.

The vein of steatite has been found to reach across the island to a little bay not far from the Creux harbour. An important quartz vein, distinctly metaliferous, crosses Little Sark. It is here that the silver ore already alluded to was found.

The Creux harbour communicates with the interior of Sark by a short tunnel cut through a soft north and south vein, the whole of which would ultimately have become undermined and removed, leaving an island of hard rock, had it not been preserved by the breakwater. It would in that case have added one more to the rocks called the Burons, still existing close at hand. This vein, like others in the island, contains a good deal of metallic oxide, chiefly iron. Its condition will be understood by a glance at the cut annexed.

SOFT VEIN.
Tunnel Entrance to the Creux Harbour,
SARK.

The northern and southern extremities of Sark, and a belt extending through the middle of the island, are composed of harder rock than the intermediate land. The island of Brechou and the Burons, on the east and west, are also hard. They are examples of portions of the middle belt that have long resisted destruction, though separated from each other by soft north and south veins. As already stated, the softer members of the syenitic series are more felspathic, and the harder more hornblendic. The principal direction, both of the Boutiques and of the Gouliot caverns, is north and south, and the general range of the island of Sark

is the same. The Coupée vein, and that which has separated the rocks at the northern and southern extremities, are, however, east and west.

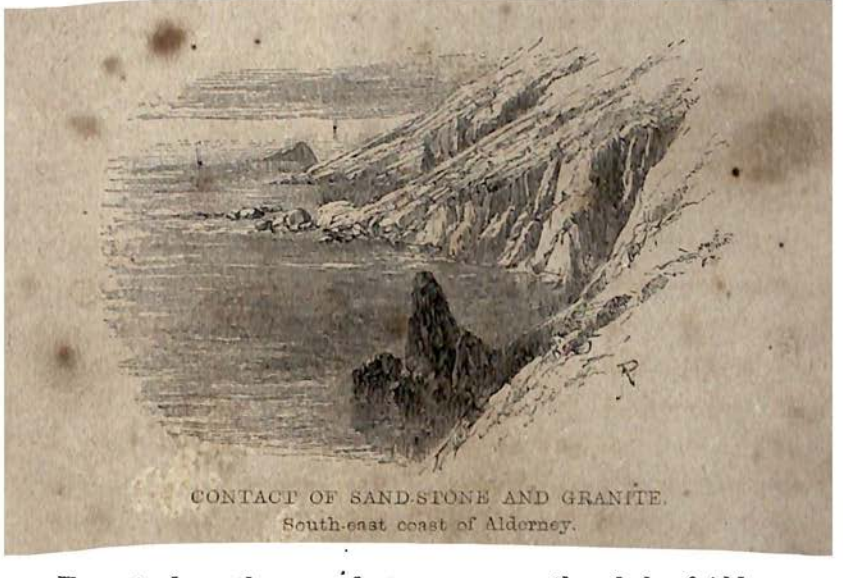
The geology of Alderney, like that of the other islands, has much reference to syenite and other porphyries, but it includes also some especially interesting phenomena of disintegration of granite, and it affords, in addition to the hypogene rocks, a stratified deposit overlying them. This deposited rock is a reddish or grey grit-stone, composed for the most part of small pebbles or fine grains of quartz cemented by felspar. It covers the granite or granitic gneiss quite unconformably, and is limited to three patches, each of which requires notice.

One of these occupies the whole of a small promontory at the north-eastern extremity of the island, from the middle of Corbelette Bay to Longy Bay. It is very extensively quarried for the harbour works. The junction with the granite may be seen in the railway cutting close to the bay; and although both the sand-stone and the granite are rotten at this contact, they do not give the impression of having mutually influenced each other. Other contacts are seen on the cliffs, and in them, also, we have little appearance of rottenness affecting either rock. The sand-stone dips about 25° to 30° to the south-east. The planes of bedding are very smooth and large, and the rock breaks by complicated systems of joints.

An extensive deposit of this sand-stone covers the hill on which is Fort Essex, on the south side of Longy Bay. There is here a bold cliff, nearly 200 feet above the sea, faced entirely with sand-stone. The stone is quarried on the land side, and towards the sea presents one of the most magnificent and picturesque examples of broken rock it is possible to conceive. This is called the Roche Pendante, a magnificent and accurate view of which has been given in a previous chapter (see p. 25). The sand-stone dips in the same direction, and nearly at the same angle, as at the railway quarries; and the detached rock, just

referred to, does not appear to have broken away, but rather to have been separated, either by the removal of some soft vein, or more probably by a crack produced during elevation, and gradually widened.

The sand-stone may be traced by the eye easily enough, capping the south-eastern cliffs for about a mile. It then dies away, but is repeated after an interval of a mile and a-half in another small patch. The dip is everywhere similar, and this third portion, which is quarried for building purposes, is somewhat whiter and closer grained than the others. The annexed engraving represents this contact as seen from the cliffs above at some distance.



CONTACT OF SAND-STONE AND GRANITE.
South-east coast of Alderney.

Except where these sand-stones appear, the whole of Alderney consists of alternations of the following rocks, viz.:—Hard, durable syenite; decomposing syenite, with nodules and occasional masses of hornblendic rock and veins of greenstone; soft granite; and ochrey clay. In the course of time, by exposure to weather, the decomposing syenite has, in many places, become totally disintegrated and converted into a fine clayey sand. This being washed away has left numerous blocks of hard syenite, of all

sizes, of which the angles have peeled off in concentric layers. All over the surface of Alderney are rounded blocks of this kind, bedded in or standing partly out of the light clayey sand which forms the vegetable soil. Many such blocks have been made use of in ancient times to construct Druidical monuments. Sometimes they have been collected in rows to form boundary walls, sometimes the larger ones have been split by wedges or blasted; but wherever there is a light deep soil, such stones are met with, either buried deep in the soil or lying on the surface, but beyond all doubt they have been, originally, before its decomposition, parts of a compact porphyritic rock.

In the south-west part of the island there are rotten veins of nearly the same granitic material, but in which there are numerous quartz or felspar veins of great hardness. These, of course, when the rock has decayed, are thrown down on the beach below or left on the surface above, and are easily traced and recognised.*

Besides the granitic rock just described, there is, in the north-western part of Alderney, in the hill that forms the northern part of Braye harbour, an exceedingly hard boss, composed of a kind of hornblendic porphyry or compact greenstone porphyry, quite distinct from the other rocks. This extends for some distance to meet the sand-stone in Corbelette bay. It has been taken advantage of by the corps of engineers to serve as the foundation for the very strong fort of the Touraille; and the hardness of the scarped face it presents is such as to offer little chance of success, should any attempt be made by an enemy to injure, destroy, or undermine it.

A large amount of very rotten granite and many veins of soft material occur on the south-east side of the island. Grand walls

* Magnificent and extremely picturesque examples of these veins are represented in the view of the coast of Alderney given in the title to Part I. The view is taken from a cliff not far from the depression called Trevaux (three valleys), near the Telegraph.

of very hard and less destructible rock, crossed by broad veins of felspar, apparently horizontal and altogether inaccessible, project some distance seawards, and are often continued by detached rocks beyond the sea-line. The geologist must be allowed to regret that, in adopting the necessary policy of rendering the coast as difficult of approach as possible, many small natural bays and picturesque inlets can no longer be examined from the land side, the cliff being cut down so as to present from the shore a wall uniformly and systematically vertical, and always at least thirty feet high. Were it not for this, some of the caverns and pierced rocks would certainly be laid bare, and illustrate the veined structure of the rock.

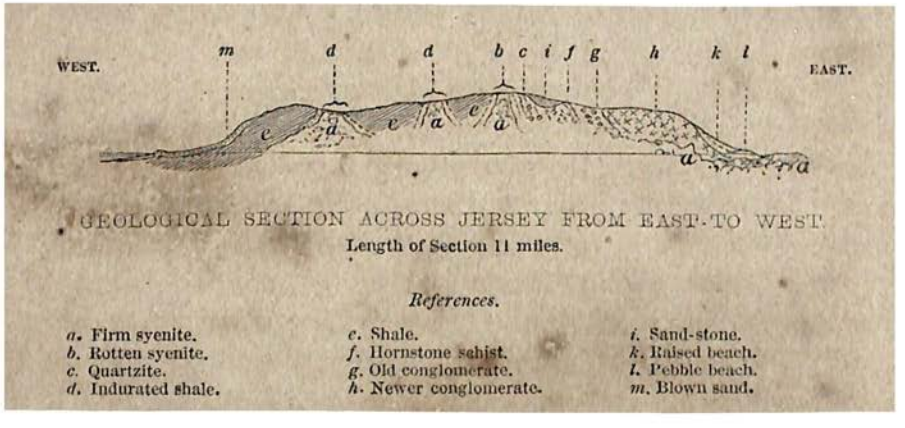
There is nothing to indicate the geological age of the sand-stone in Alderney. It does not resemble, and is probably much newer than the grit-stone of Cherbourg, which contains numerous veins of compact quartz rock of large size; and if it were safe to be guided by mere appearance, we might rather point to it as the equivalent of the Permian or Triassic period. It may, indeed, be newer still; but as its general range is E.N.E. and W.S.W., agreeing therefore with the direction of elevation of the northern promontory, it more probably belongs to an ancient than to a modern deposit. It is quite unaffected by the contact of the crystalline rocks and the veins intersecting them.

The rocks beyond Alderney to the west appear to agree almost exactly with that island. There is much syenite, with numerous veins, and a covering of sand-stone at intervals as far as the Casquets.*

The geology of Jersey is even less known than that of the

* The author greatly regrets that he was unable to land at the Casquets and Burhou Islands. These islands are not often approachable, either from Alderney or Guernsey, without risk of detention; and a perfectly calm sea is indispensable to enable one to land safely. It is said that the veins traversing the syenitic rock of which the Casquets are mainly composed, extend into the sand-stone overlying. This statement needs confirmation.

other Channel Islands, although it involves greater complication and a far greater variety of rocks. This difference in the rocks arises chiefly, perhaps, from the comparative magnitude of the island and the fact that the various materials most easily injured and removed are there better protected by walls of syenite, and are thus sheltered from the injury that has destroyed so many of the other islands. Jersey, at any rate, is, at present, the island where the metamorphic rocks—so called in contradistinction to the crystalline rocks—are seen in greatest variety and largest development.



GEOLOGICAL SECTION ACROSS JERSEY FROM EAST TO WEST.

Length of Section 11 miles.

References.

a. Firm syenite.
b. Rotten syenite.
c. Quartzite.
d. Indurated shale.
e. Shale.
f. Hornstone schist.
g. Old conglomerate.
h. Newer conglomerate.
i. Sand-stone.
k. Raised beach.
l. Pebble beach.
m. Blown sand.

A good deal of Jersey may be understood in a short time by walking round the coast and making one or two traverses across the interior. In the first place, there is syenite; veins of it forming many headlands and cliffs. On the north coast one or two of the veins are worked for building purposes, behind Bonne Nuit Bay and the Saline. The best quarry is that of Mont Mado. The veins here run north and south, and are characterised by magnificent natural backs or joints, partly in the direction of the vein and partly at right angles. Blocks of stone of very large dimensions may be obtained without flaw, and the quality improves in descending. The supply, however, is limited. On each side of the firm and valuable stone is a

great thickness of rotten granite and gravel; but further east, the granite is replaced by a variety of hornstone and cherty quartzite—a bedded rock, extremely tough in this locality—and occasionally there occurs an exceedingly hard quartzite, passing into a conglomerate, apparently of old date, occasionally traversed by veins. With these cherty rocks are occasionally felspathic rocks, and forming a facing to the cliff there is often a great thickness of rubbish, or angular weathered blocks, buried in sand and smaller stones, derived from the rocks above. Some of the porphyritic rocks are highly calcareous, approaching limestone in composition, and effervescing with acids.

On the west of the island, and covering much of the interior, there is a considerable quantity of shale, occasionally hardening into an exceedingly compact clay-stone, or clay-stone porphyry, but often rotten and loose in texture. In the middle of Jersey, this shale seems to cover the granite at intervals; but towards St. Ouen's Bay, there is a large development of it seen in all the cliffs and road-cuttings dipping towards the sea, and tilted at a high angle. The angle of inclination is not uniform; and occasionally there is much contortion of the strata. Close to St. Helier's is a junction of this rock with the porphyries and syenites; and here the shale passes into clay-stone, and clay-stone porphyry.

On the east, the syenites pass by a graduated succession of metamorphic rocks into a tough cherty quartzite and hornstone, sometimes hard enough to be used as a substitute for emery. True corundum has been stated to exist in veins in Plemont and elsewhere, but no sufficient evidence has been obtained by the author to justify the assertion.

The cherts and hornstones are abundant in Bonne Nuit Harbour, a little to the north of the beautiful syenite of the Mont Madoc quarries. They extend for some distance in this direction, and, at Giffard's Bay, they pass into an exceedingly hard quartzy conglomerate, penetrated by greenstone veins. In a

somewhat modified form, the same kind of rock re-appears near the point called l'Etaquerel, in Bouley Bay. The conglomerate in Giffard's Bay seems, however, quite distinct from that met with on the east side of Bouley Bay, and extending thence along the coast to St. Catherine's Bay.

Another kind of cherty rock projects in headlands and jagged points beyond the southern termination of the conglomerate last mentioned. It is well exhibited at La Crête Point, where it has numerous east and west joints, and is almost columnar. In an adjacent quarry it assumes something of the same tendency as in Giffard's Bay, passing into an exceedingly compact conglomerate, which, a little beyond, is covered and concealed by a much coarser conglomerate.

This older conglomerate has not been observed in many places, but its existence is well marked. It is traversed in Giffard's Bay by a vein of basaltic greenstone two feet wide. At this point, it is impossible to draw a clear line between the rock in question and a very hard quartzite adjacent; and, at no great distance, the whole is concealed by the other and newer conglomerate. A doubtful condition of the quartz rock exists in the middle of Bouley Bay, for there, also, tough quartzite, passing into a pebble conglomerate, is succeeded on one side by syenite, and, on the other, by the coarse, angular conglomerate of the north-east coast.

The veins traversing the porphyritic rocks of Jersey are chiefly exhibited on the north-western, south-western, and south-eastern extremities of the island. The former are exceedingly remarkable, and many of them very large, and filled with many varieties of minerals.* Close to the town also, in a road cut through the

* Mr. Godwin Austen remarks, in reference to this subject, "I noticed a single dyke in the island of Jersey, which, in one place, was an earthy hornblende, then compact greenstone trap, hornblende with distinct crystals of felspar: lastly, hornblende, with large plates of mica."—*Report of the Transactions of the British Association at Birmingham, in* 1849, Part ii., p. 51.

rock on which the fort stands, is a thick vein of mica. Most of the principal fissures range north and south, shifting occasionally a little to the east or west of that bearing. They succeed one another with such exceedingly short intervals that the coast line, for a distance of several miles, can only be compared to the edge of a saw. The indentations are not deep, but their number is countless; and many of them terminate quite abruptly. This condition comes to a climax in the picturesque bay called the Grêve au Lançon, and the headland called Grosnez Point.

The south-western extremity of the coast of Jersey is almost equally broken, but not so regularly indented; and this is the case also with Plat Rocque, the south-eastern corner. The Corbiére rocks and the coast from the Corbiéres to the east, as far as St. Brelade's, present as great a variety of form and broken outline as can be found on any coast.

We have not yet described the newer conglomerate of the north-eastern corner of Jersey. It is a very singular mass, not at all easy of explanation. For the most part, it is composed of rounded pebbles of all sizes, up to several cubic yards, of which the greatest number, though not the largest of the stones, are chlorite, schists, and other rocks of no great hardness. With these, or replacing them altogether, are large patches made up of pebbles of syenite, hornblende, hornstone, quartzite, and other minerals and rocks, with a vast multitude of jaspery rocks, all indiscriminately mixed and firmly cemented together. Occasionally, angular masses of rock, chiefly chlorite, are cemented into a dark green breccia. On the beach where this conglomerate prevails, there are not only a multitude of pebbles, evidently derived from it, but also a singular profusion of common chalk-flints, often of large size, and not always more worn than they are on the south coast of England. The condition of the pebbles and the singular result of their rapid accumulation on the coast will be considered in the next chapter, but the view of the

boulders of Saie Harbour, given in the next page, may be referred to as interesting in reference to the above remarks on the conglomerate, admirably shown in the locality alluded to.

On the beach at Grouville Bay, south of the extreme point at which the conglomerate is found, there are also chalk-flints in large numbers, but generally smaller and fragmentary. The proportion of such pebbles is, however, still very large. The conglomerate behind and near St. Catherine's Harbour dips about 30° E.N.E.; and this dip is constant for a distance of more than half a mile. The extreme limit of the deposit seems to be from the middle of St. Catherine's Harbour to the eastern side of Bouley Bay, a distance, in a direct line, of rather more than three miles.

The precise geological age of this conglomerate being at present undetermined, and the beds dipping considerably and for the most part to an easterly quarter, it is possible that there may be some connection between them and the Alderney sand-stone. There is, indeed, nothing in common between the two, beyond this general relation to a north and south axis of elevation lifting up the islands through an angle of about 30°. That the Alderney sand-stone is on the north and east of that island, and the Jersey conglomerate on the south and east of Jersey, suggests the possibility that the principal east and west axis lies between the two, and agrees with the position of Guernsey and Sark. These obscure connections, traceable between the islands, introduce hypotheses that may help to direct future enquirers. They can hardly be regarded at present as more than suggestive; but if it should appear that the Alderney sand-stone and the newer conglomerate are contemporaneous, the older Jersey conglomerate may, perhaps, belong to the Cherbourg grits.

At a point behind St. Catherine's, and again on the descent of the carriage-road to Bouley Bay, there are small deposits of a very fine red sand-stone, with clayey bands. These deposits are nearly horizontal, and are no doubt modern, but there is

nothing in them to mark their precise date. They are situated far above the present level of the sea, and must have been deposited before or during the last great elevation.

It becomes, then, quite certain, whatever we may decide as to older disturbances and original elevation, that numerous movements of upheaval, of different amounts and in different directions, have affected the Channel Islands at various times. It is also certain that many of these have been such as to affect each island differently, thus proving the limited extent of the elevating action in such cases; for, had it been large, it must have affected uniformly the comparatively small area containing all the islands and the surrounding sea.

Many details have been omitted in this sketch of the crystalline and metamorphic and other older rocks of the Channel Islands, but the outline given may, perhaps, be useful and suggestive. Let us pass on now to the modern deposits, the recent changes of level, and the recent destruction of the coast.

BOULDERS, SAIE HARBOUR, JERSEY.

Vide page 294

CHAPTER XI.

GEOLOGY AND MINERALOGY OF THE CHANNEL ISLANDS.

Modern Destruction and Renovation.

The magnificent scenery, so much admired on the coast of all the Channel Islands; the wild desolation that reigns when the receding tide lays bare needle points, or exhibits alternate floors and walls of granite, in places where a few hours ago the water presented a smooth, but treacherous surface; the broken cliffs, detached headlands, natural arches and recesses, and gloomy caverns; the grotesque rocks, some prominently jutting out, some fallen from above and angular, some rounded and smooth; —all these are the results of an action of wind and water that is going on every year, winter and summer, and that is always tending to reproduce, with little essential variety, the very forms and outlines it is constantly destroying. Scenery representing these picturesque appearances, is pictured with great accuracy in many of the illustrations in this volume.* Such

* See more especially the following views:—Cliff and Roche Pendante in Alderney, Chapter I. Gouliot Rock in Sark, Chapter II. Various views of Jersey in Chapter III. The Corbiére in Guernsey, Chapter X. The views in the present chapter. The Burons, Chapter XII. The rocks in the Title to Part III., before Chapter XIII. St. Catherine's Bay, Jersey, Chapter XVIII.; and the Coast Scene in Guernsey, Chapter XIX. These have all been selected and drawn with a special view to illustrate the wild coast scenery of the principal islands.

representations are not the less valuable because in a few years they must refer to things of the past, for there will still be in the same, or some near place, a similar specimen of rock scenery, produced on similar material by identical causes.

To understand the secret history of the picturesque in these islands, it was necessary that the nature and origin of the rocks should be in some measure learnt, and in the last chapter it has been attempted to give a brief outline of these. It remains now to consider the modern changes, the forces now at work, and the result of their combined agency in our own, or very recent times.

In all this, however, we must speak in geological language. What is meant by modern and recent, is very old in comparison with human records, and dates back to a time, when, if men existed, they belonged to races long extinct; races, whose only remains hitherto found are fragments of broken flint or harp stone, wherewith savages might perform those few actions that proclaim their human intellect.

The modern influences we allude to in this chapter are several; they include subterranean movements, producing slow upheaval or depression of large tracts; the destroying and reproducing action of the waves in breaking up hard rocks, and accumulating the debris at a distant point; the action of rain and changing temperature; and the action of organic life, modifying in various ways the inorganic forces.

That there are forces of the kind just mentioned, the reader, not accustomed to geological investigations, must take for granted. Proofs of them exist in abundance; but it would involve explanations not justified in a work of this kind, to present them to the reader. They are readily found and all the results mentioned are every day events in nature.

Assuming then that the syenites and porphyries of the Channel Islands, covered, perhaps, at one time, with numerous and thick deposits, have been slowly brought into their present position,

the sea all the time acting on the uprising mass, and clearing away the softer matter, so as to bare and denude the surface, we may imagine a time when the various operations were less advanced than at present, when the lands were larger, and when they were more nearly connected with the continent.

The first class of changes we have mentioned, includes those resulting from subterranean movements of elevation or depression. One of the most familiar illustrations of the existence of such forces is seen in the earthquake, a phenomenon common enough in various parts of Europe, and not unknown in these islands. Many have been recorded within the last thousand years, and many more of smaller magnitude have certainly taken place.

In the History of Guernsey, by Mr. F. B. Tupper, it is stated that an earthquake of serious magnitude, producing great destruction, took place in the month of March, 709, and another, or rather a series of movements, between the 22nd and 29th October, 842. On the latter occasion, there was throughout the north of Gaul an accompanying subterranean noise, lasting seven days, recurring several times a day. Afterwards, in the year 1091, very severe and disastrous shocks were felt in the islands, and at Angers, on the Loire, stones were thrown from the arches of the windows of the large tower of the church. Two years before there had been serious concussions in England, and in 1161, the whole shore of the Cotentin was disturbed, the islands being also greatly affected. There are no records of disturbances in the islands from that time till 1843; but, for several centuries, shocks were so frequent, and the mischief done by them so notorious in England and in France, that there can be little doubt the intermediate sea-bottom must have been affected.* At the

* There is a curious notice in a MS. in the British Museum, apparently referring to a severe earthquake shock in the sea off Sark, that must have occurred at the close of the seventeenth century. The year 1691 was remarkable for severe earthquake action in the Atlantic.

close of the year last mentioned (22nd December, 1843), a vibration was felt in Guernsey, lasting four seconds, shaking buildings, and ringing the bells of the churches.* Ten years afterwards, in 1853, on the first of April, there was a distinct shock, not injuring property, but causing great alarm.

It is evident, then, that there are causes capable of producing elevation or depression, producing their effects from time to time beneath these islands. Their effects must be sought for in distinct phenomena, involving movement of this kind. The earthquake action that has continued at intervals for more than a thousand years, is not likely to have commenced at the beginning of this period. On the other hand, it may have been much more active in former times than it is now.

A beach, consisting of rolled pebbles, arranged as beaches are now arranged, placed at the foot of a cliff, but now at an elevation many yards above the highest point to which the tide ever now reaches—is called a raised beach, and is a standing proof of subterranean action of the nature of elevation.

Indications of raised beaches in all the islands are numerous,

* The following description of this shock is extracted from a Guernsey local paper, published at the time, and preserved by Dr. Hoskins, to whom the author is indebted for the reference. "The shock was felt in all parts of the island, and everywhere appears to have produced the same effects. Persons out of doors felt the earth heave under them; in some cases so violently, as to oblige them to lay hold of the nearest object for support. The banks and hedges of the fields were seen to be in motion, and in the houses the furniture and goods were rocked and shaken. Buildings of all kinds were distinctly seen to heave and shake, as well as the pier walls, the iron railings at the south-west corner of the quay, and the massive quay at St. Sampson's harbour. The vane of the town church was violently agitated, and the bell struck twice. The shock was felt in all the other islands at the same time as at Guernsey." The shock was also felt by vessels in the roads, and by a fishing boat at anchor, half a mile to the south of Guernsey. This earthquake was preceded by a very remarkable meteor, and the appearance of the sky is said to have been very unusual. A brief notice of this earthquake, communicated by Dr. Hoskins, is published in the *Abstracts of Papers read before the Royal Society*, Vol. V., p. 498.

but it will be sufficient to describe some about which there can be no question. One such was discovered while cutting a deep trench through the granite in constructing the works at Fort Regent, in Jersey. It is in all respects clear and satisfactory. About thirty feet above the present mean level of the sea, there are the remains of a beach, precisely identical with beaches now at the sea-side. These include a thickness of some yards of well-rounded granite boulders, some of large size and considerable weight, reposing on a smooth surface of rock. The beach gradually thins out towards the sea. Any one may see the state of the case, as a good section made by a road cutting is within the town of St. Heliers, but it will probably be obliterated before many years are past.

In Guernsey there is a similar, but less perfect beach, in the Island of Lihou. A remarkable instance of ancient beach, mixed up with modern detritus, occurs in Moulin Huet, where a crevice conducting to a cavern is partly filled, and the walls are plastered over by numerous fragments of raised beach, consisting of rolled pebbles and large angular rocks, mixed with smaller rocks and mud, fallen in from a height of at least thirty or forty feet above the present high water mark. Still nearer the town of St. Peter's Port, near the cliffs of Havelet, there are rolled pebbles with angular rocks under similar circumstances.

In the island of Brechou, between Sark and Guernsey, on the side of the road leading up from the only landing place to the farm, the road-side cutting has laid bare a particularly clear example of true raised beach, with rounded pebbles. Here, also, the elevation is about thirty feet; but as the quantity of material is limited by the narrowness of the space, it will not be retained long, now that it is exposed to the action of the weather.

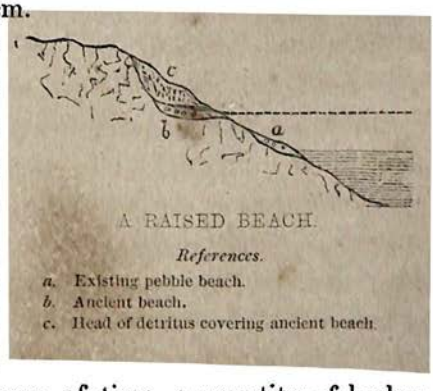
On the north-western side of Alderney there is a considerable talus of angular fragments, some part of which, perhaps, is merely the decomposed surface of the granite itself, unmoved; but the rest, no doubt, consists of similar fragments fallen down,

and much water-worn. Such debris form an imperfect low cliff towards the sea, and are apparently elevated.

A raised beach, of rounded pebbles of sand-stone and granite or greenstone mixed irregularly together, occupies the top of a low hill about thirty feet above the sea, close to Corbelette bay, and is cut through and laid bare by the railway cutting, just before the quarries are reached. Evidences of elevation of about this amount exist, therefore, in all the principal islands, and in some of the smaller ones.

Other indications of partial and small elevation are traceable in some of the caverns and broken rocks on the coast of Sark, Alderney, and Herm. These consist in an appearance of tidal action at levels above those now reached by the waves. It is not, however, worth while to speculate on the precise nature of these phenomena, as the proofs of recent elevation are amply sufficient without them.

The following diagram is intended to illustrate the nature and origin of these raised beaches. The former sea-level being indicated by a broken line in the section, the action of the sea would then eat away a ledge and deposit a beach, as marked at *b*. Over this, in the course of time, a quantity of broken rock, *c*, would accumulate, falling down from above by the ordinary action of weather. In the course of time, the whole mass being raised, a new terrace is cut out and a new beach deposited at *a*. Gradually the new beach will be carried back to the old one, and the whole will ultimately be washed away unless there is a further elevation. The pebble beach, though apparently always present, is constantly shifting, so long as it is not permanently above the level of high water.



A RAISED BEACH.

References.

a. Existing pebble beach.
b. Ancient beach.
c. Head of detritus covering ancient beach.

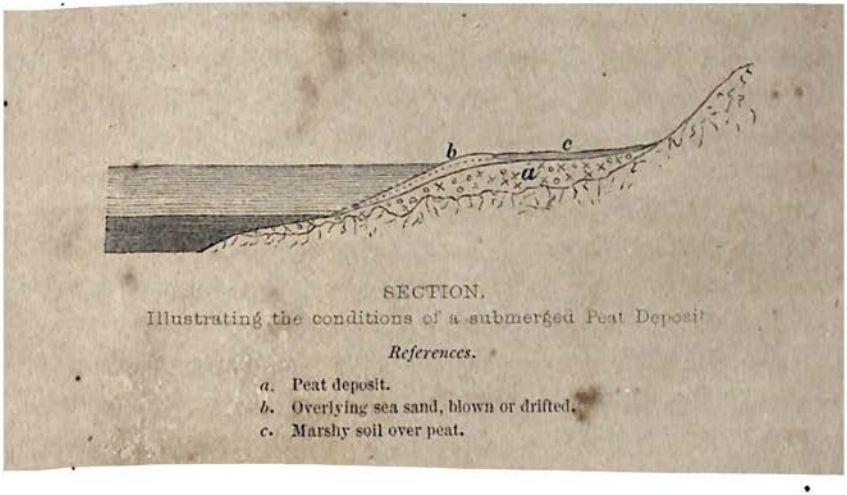
While there are thus proofs of elevation having taken place, converting sea beaches into cliffs, there are also found in Jersey and Guernsey beds of alluvium, containing forest trees and peat, which must formerly have grown in dry ground and in some depth of soil on the spot where they are now seen, but which at present are many feet below the ordinary level even of low water. Some of these reach out into the sea, and are only known to exist by dredging, or by parts of them being thrown up after heavy south-westerly gales at low spring tides. At these times, large compact masses of peat and parts of trees have often been drifted in shore. Beds of peat, which extend for some distance inland and are some yards deep, are connected with some of these sub-aërial deposits.

During the sinking of a hole in the winter of 1861, at a point about sixty feet west of the massif of the north pier at St. Peter's Port, a deposit of sandy peat, somewhat altered but retaining its distinctive character, was found about four feet below the surface on a bed of sound yellow gravel. The peat was covered by shingle and sand. Similar peat beds exist near St. Sampson's harbour, where Roman coins have been found at a depth of twelve feet from the surface, in alluvial deposit.

On the west of Guernsey is a somewhat large area near the sea covered with peat, containing numerous stools of trees. One portion of the deposit near the present high water mark connects, below some intervening ponds of fresh water, with a sub-aërial portion. These beds are the higher members of a deposit of submerged peat and forest ground extending beyond Vazon Bay. In the same district, but further inland, trunks of trees lie buried in the sub-aërial mass. In sinking a well through one of these deposits at St. Pierre, after traversing thirty feet, the workmen reached what they supposed to be the solid granite on which it rested. The work was, however, continued, when the obstruction was found to be a large block included in the superficial beds. Beneath the block was the stem of a large tree,

which had to be cut through. St. Ouen's Bay, in Jersey, presents the same features as Vazon Bay in Guernsey.*

These phenomena are not very difficult of explanation, but will be better understood by reference to the annexed diagram, which may represent in a general way either Vazon Bay, in Guernsey, or the larger and more important deposit in St. Ouen's Bay, in Jersey. There is no essential difference in principle between the two, and very little even in points of detail.



SECTION,
Illustrating the conditions of a submerged Peat Deposit.

References.

a. Peat deposit.
b. Overlying sea sand, blown or drifted.
c. Marshy soil over peat.

The dark shading represents the former position of the sea when the land was covered with vegetation, and the part marked *a* indicates the position and extent of land on which grew the ancient forests. The sea encroaching by the gradual submergence of the land, the forests would be killed and the trees accumulated by degrees, the soil being replaced by turf. The whole, in time, after the submergence is complete, is brought within the sea's action; so that, on the occasion of an unusually high tide, a breach is made and the tract is converted into a salt marsh, the trees and peat being buried and preserved. In this state things might still remain for a long time, the level of the submerged land gradually rising by natural alluvial accumulations

* *See* Austen, in Quarterly Geol. Journ., vol. vii. (1851), p. 131.

and no subsequent extraordinary tide affecting the marsh. Lastly, a further small subsidence taking place, the whole deposit would become partially buried and covered up with sand and shingle, although subject to be torn away and thrown upon the shore by the action of high tides during heavy gales of wind.

The turf and peat thrown up in Guernsey is called, locally, *Corban* or Gorban,* a Hebrew expression derived from the New Testament, and intimating, in the somewhat puritanical language of the islanders, that they regard it as a providential supply of fuel. A remarkable supply of it was obtained in 1847, when, after a severe storm, the substratum of alluvial sand was undermined and large compacted masses removed. The following account of this event is taken from a description published at the time by Mr. F. C. Lukis, a gentleman well known in Guernsey for his attainments, and for his collections, both geological and archeological, in all matters bearing on the natural and civil history of the Channel Islands.

Mr. Lukis remarks:—"Trunks of full-sized trees, which once grew on the spot from whence the waves were now for the first time dislodging them, accompanied by the meadow plants which once ornamented their grassy habitation,—roots of rushes and weeds, surrounded by those of grass and mosses,—gave evidence of the luxuriance of the locality. These roots exhibited a lengthened period of growth, and, like some other bog plants, they grew upwards as the vegetable covering increased, leaving their dead roots and fibres to add their quota to the further accumulation of vegetable matter.

"The very perfect state in which these trees were, shows that they had been for a long time buried under sand. The compression of their trunks and boughs exhibits the first indication of that flattened form which all fossil plants undergo by the de-

* *Gorban* seems to have been first recognised in 1757, and first used about fifty years afterwards. The principal patch is estimated as occupying about thirty-two English acres, and it has been dug into in some places to a depth of twenty feet.

composition of the vegetable fibre, without entirely destroying the texture of the wood."

The trees were overspread with corallines, fuci and sertulariæ, and perforated by marine ship worms. So large was the quantity of wood that it was at first supposed a vessel must have foundered near the coast during the gale.

Similar deposits, of smaller size, have been found elsewhere on the same coast. Celtic pottery and stone instruments, as well as coins of Roman date, and the teeth of horses and hogs, have been found in the peat at considerable depths; together with acorns, hazel nuts, and a singular stone of a large plum or damson, not agreeing with any known kind at present in any of the islands.

Evidences of the same nature, in proof of the depression of large tracts of country, are known in various parts of Cornwall, and on the French side of the Channel, near Morlaix in Britany.

It has sometimes been stated that the subsidence to which the submerged peat beds is due, is part only of a very much larger depression separating the islands from each other and from France within the historic period. Documents are quoted tending to show the existence of religious houses in parts of the Cotentin, now completely under the sea; and there is every probability that much land has been lost not only there, but in the islands. It must not, however, be concluded that all this has been caused by subsidence. The action of the sea is here so extreme as to account for enormous changes; and this part of the subject comes next under consideration.

Few even among those who have studied Geology are aware of the extent of change going on around us in places where nature has free course. We are in the habit of seeing and examining land which is cultivated, and coasts which are artificially protected, either by actual sea-walls and breakwaters, or by taking care that the cliffs and shores are clothed with proper vegetation. In all these cases, the natural action of

weather and waves is diverted into some unrecognised channel, and we fancy it does not go on. The inhabitant of, and even the casual visitor to the Channel Islands, but especially to Sark, may easily obtain notions on this subject, which will greatly simplify his subsequent study of Geology.

There is not one of the little bays and approachable points of coast around Sark—and their number is not a few—at which the falls of cliff every season are not dangerous enough to call for constant attention. They are, indeed, so familiar as not to attract special notice on the spot. But they are also so extensive as to render it impossible, in most places, to carry cultivation near the edge of the cliff; and after a few years, the walls and fences require removal if an attempt to reclaim land has been carried too far.

If we leave the cultivated fields and carefully trace the edge of the cliff, where it is overgrown with furze and brambles, we shall generally find evidence of change clearly marked. The sharp edge of the cliff is itself a proof,—the loosening of the soil a few yards from its edge a still more marked illustration of what is going on. At the foot of each cliff we find but little earth, for all that falls is soon washed away; but there are many stones,—some angular, some with their corners and angles smoothed, some completely rounded. The only reason why all are not rounded is that the work of rolling and wearing is still going on upon recently fallen material. Were there no fresh supply, all would soon be reduced to fine sand.

When, too, we see such masses of rock as Tintageux, the Autelets, and a hundred others in Sark without names,—huge isolated rocks on the shore, with the wild waves breaking over or dashing through arched passages cut in them,—what do these mean but that the work of destruction is in progress. They will not long remain where they are, but others will succeed them equally picturesque and equally instructive.

Other places, such as the Moie de Mouton and the Point

du Derrible, the Nez of Sark, and Little Sark itself, are examples of great portions of the island that have almost become separated, but between which and the land a water passage has not yet been made. Such also are some of the headlands on the coasts of Jersey and Guernsey. The Coupe on the north-east coast,

THE "AUTELET" ROCKS, SARK.

Plemont Point on the north-west, and a nearly detached promontory near Moye Point, on the south-west of the former island, and the fine headlands of Icart and the Moye Point, of Guernsey, as well as the Gull Cliff, near Pleinmont, also in Guernsey, are good examples. Similar places also occur in abundance along the coast of the other islands on a smaller scale.

And then the caverns. One must visit Sark to know what water can do with granite. In walking through the remarkable cavern called the Boutiques, natural fissures are traversed more than a quarter of a mile long, not crossing the island, but parallel to its length, opening from one, intersected by two others, and terminated by a fourth grand chasm. The floor of this cleft is a wild chaos of rocks, some fallen in from above, some rolled in

from the sea. The roof, some fifty feet overhead, is always falling and becoming converted into rocks and pebbles—the floor, composed as it is of Titanic angular fragments, is rapidly removed, and as frequently replaced. The extremity is choked at one time by stones that even the old Druids would hardly have attempted to move; at other times it is open to the sea, all these being swept away. Such phenomena, however grand, are connected with the very simple operation of a well-known cause. The existence of a fissure in hard rock, filled at one time with soft mineral, is the elementary condition.—The result is seen in the removal of the soft mineral by the undermining of the sea—the falling in of the unsupported roof, and the rolling about in sea water of the angular fragments that fall, become rounded, are broken into pebbles, and finally are ground into sand. A noble view from the mouth of one of the Boutiques illustrating such a result, is given in the frontispiece to this volume.

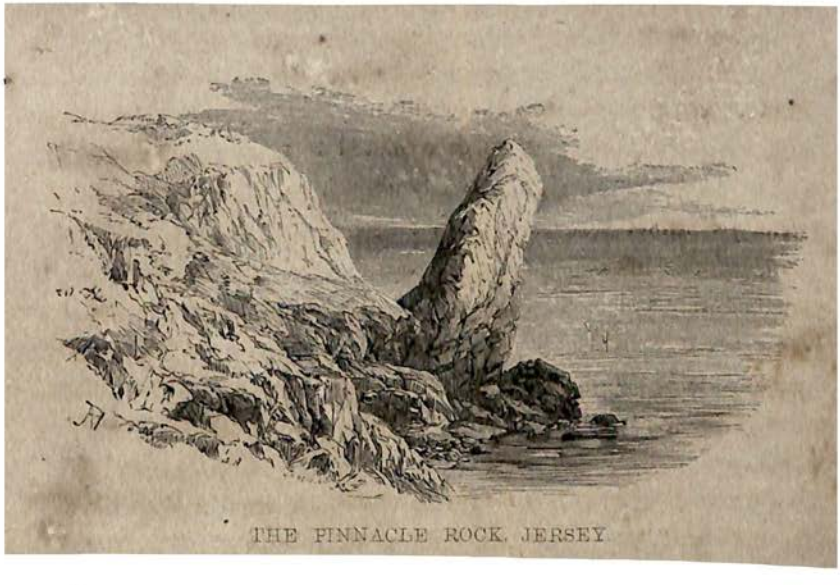
The Gouliot caverns are not less remarkable than the Boutiques. In them, also, the sea, taking advantage of the softer veins, has penetrated the granite, and brought down thousands of tons weight of rock to be ground into sand, and the passages thus made by the water must ultimately end in isolating the Gouliot rock, which is now connected only by a natural bridge, and in narrowing the island still further at this point.

In the beautiful bay called the Grêve au Lançon, in Jersey, the caverns and creeks have been already mentioned as illustrating the same natural law and the force of the tidal wave. The whole coast of Jersey, and, indeed, of all the islands, tells the same story, and helps to impress more strongly the conviction that where the daily and yearly result is so marked, the islands must have been very different even a few thousand years ago.

"*Vires acquiret eundo,*" might indeed be the motto of all sea action in these exposed places. Every weak point in a cliff once discovered by the waves reveals a score of others, and paves the way for advance in many directions. A force of this kind that

is constantly shifting its point of attack, returning to the same place twice at least during each twenty-four hours, must soon, however small each apparent result, become effective. Every pebble that is moved, every fragment of rock that falls, helps to break away other rocks, and reduce other rocks to pebbles and sand.

The phenomena of pierced rocks, or nearly-detached masses having open vaulted passages through them, formed by the sea, are especially abundant in Sark, but occur also occasionally on all the other shores. They afford admirable illustrations of the course of the sea's action; and although a fresh supply is incessantly produced, they rapidly pass away into smaller and fragmentary masses.



THE PINNACLE ROCK, JERSEY.

Detached rocks, pinnacles or needles, are in all cases rocks in the later stages of destruction. There are many of these in Sark, where all the marks of the sea's action are so abundant. They are also found in Alderney and Jersey not only close to the

sea, but much above its level, but these have a different origin. Of the detached rocks, there are two kinds. Some, such as the Casquets, the Chaussey Islands, the Minquiers, the Burhou Islands, the Paternosters, the Ferriéres, the Anfrocques, and the infinite multitude thrusting up their heads in all parts of the Channel Island seas, rise out of comparatively deep water, and are not seen to be connected with present land. Others, such as the Corbiéres, of Jersey, and many others in and near the bays round that island, as well as all the other islands, are approachable from the land at low water. With few exceptions, they are composed of the hardest syenitic rock; and their form is governed by the softer veins that have once traversed them. There is reason to know that even the hardest still undergo change from the constant beating of the waves; but those near shore where pebbles and fragments of rock can be brought to bear against them by the sea, vanish far more rapidly than the others. They are, however, as rapidly replaced.

The singular natural shafts or chimneys, locally called "creux," afford remarkable instances of a mixed fresh-water and marine action, and occur in all the islands. The name, *creux*, is not strictly confined now to such shafts; but it is not unlikely that some of the natural gorges and open clefts, now so called, were once similar holes. Their origin has already been explained as the result of rain water penetrating soft veins, and thus opening a way to the shore. The sea, taking advantage of the opening, breaks in from below, and completes a communication which, once made, is soon enlarged.

Weathering, and water action from above, are not at all limited to the formation of creux. Many of the large open fissures in the rocks near the coast are often filled up, more or less completely, with a debris of angular fragments of rock and particles of sand, fallen in from the sides, or from above. Through these, sometimes, as in the caverns at the Moye Point, in Jersey, the rain has made its way, and opened for itself a

wide path, or, as at Moulin Huet, in Guernsey, there is a broken fragmentary mass, more or less completely occupying them.

In Jersey, indeed, on most of the cliffs on the northern part of the eastern and on the eastern part of the northern coast, there is often a large accumulation of angular fragments and sand entirely obscuring the real cliff, and forming a supplementary sloping cliff to the sea. A similar heap is seen on the western side of Alderney, but it rarely occurs in Guernsey, and nowhere in Sark. This heap is due altogether to the disintegration of the cliff above by weathering, and must not be confounded with raised beach. The fragments in it are almost entirely angular; and they do not present any appearance of regular accumulation. They are not stratified; and they very rarely, if ever, can be traced far inland. They mark a certain stage of weathering, and, in this respect, are always worthy of notice; but they generally mask the real cliff completely.

The filtration of water containing carbonate of lime, derived either from calcareous veins or from the soil, or of water containing silica in a favourable state for deposit, has often cemented this mass of angular fragments into a coarse breccia very imperfectly aggregated. Most of the cliffs thus formed contain a large proportion of sand and pebbles, and they are easily undermined by the sea.

In Guernsey, in the picturesque bay of Moulin Huet, there is an important fissure filled with angular fragments of adjoining rock; and, some years ago, a remarkable instance occurred of another such fissure on the south-west coast, at La Corbière. In this latter case, the fragments of rock had been cemented together by carbonate of lime, numerous shells of a common species of land snail, and bones of various small quadrupeds and birds, forming part of this recently-constructed breccia. At the time of its discovery, the sea had only just opened a way into the fissure; but it has since removed almost all traces of its

existence. Several very interesting specimens of it are preserved in the museum of Mr. Lukis, to whom the author is indebted for a knowledge of the fact. It would seem that, in this case, some calcareous deposit had existed on the surface near the fissure, or some fragments of a neighbouring limestone vein had been accumulated there, and had been first dissolved by the rain water, after which the water, trickling down into the fissure, had slowly re-deposited lime, at a lower level, in a stalagmitic form.

The action of rain and changing temperature in disintegrating the various rocks at and near the surface is admirably shown in many places in all the islands. The veins of greenstone and micaceous rock are especially subject to this action, and become reduced to a fine sand to a depth of many yards below the surface. Even compact syenite itself is frequently found to be weathered far below the surface. In Jersey, a large quantity of this rotten syenite is used as gravel; and, in all the islands, there are many similar instances though, perhaps, fewer in Sark than any. The depth of disintegration in Guernsey is quite as great as in Jersey, but chiefly in the southern part of the island.

The best examples of disintegration of syenite in Jersey are those seen at the back of St. Aubin's town. They are very remarkable and extensive. The syenite is reduced to a multitude of angular fragments of small size, above which is a considerable thickness of sand. The rock below is cracked to some depth. The same thing is seen behind St. Peter's Port in Guernsey, in more than one spot, very thick beds of sand being there met with. There can be little doubt that, in both islands, the quality of the soil, its extremely rapid absorption of rain and the rapid subsequent drying, are all due to this condition of the underlying rock.

The conglomerate rock of Jersey (v. p. 273) breaks up into a singularly picturesque heap of boulders of all dimensions, which strew the whole of the north-east coast of the island. The

numerous small bays which run in between the headlands, also formed of the same rock, are all covered in this way; and one of them, *Saie Harbour*, is especially remarkable for the magnitude of the blocks and the completeness of the rounding. The sketch of this bay, carefully taken by Mr. Naftel, and engraved in page 275, illustrates the difference between boulders formed out of a recomposed rock of this kind and those constructed of the hard granite of which most of the island shores are composed.

Alderney is yet more remarkable in this respect. Much of the northern part of the island consists of a thick mass of very fine sand, containing, apparently, boulders of syenitic greenstone or syenite. On close examination, there is no difficulty in discovering that these blocks and the sand are both *in situ*, being results of the disintegration and weathering of a crystalline rock rather peculiar in the imperfect state of its crystallisation. In all these cases, when the thickness of the rotten syenite or greenstone is very great, all traces are lost of the underlying rock; and one is inclined, at first, to attribute the presence of the sand and round blocks of sound rock to foreign causes and to the transporting action of waves. There are, however, no appearances that warrant the idea that there exists true gravel, consisting of transported pebbles of foreign material in any part of any of the islands.

The only apparent exception to this occurs in those remarkable beaches of the north-east and east of Jersey, already alluded to. The larger blocks and boulders are still parts of the conglomerate, but a little way out, and on the shifting beach, the extreme abundance of quartz flints, in all states of destruction, is a fact too remarkable to be passed by without remark. If merely washed up from the bottom of the adjacent seas, it is difficult to understand why the flints are almost, if not quite, limited to these particular parts of the coast of one island. They have not, however, been observed, except very rarely, and as isolated stones, even in St. Aubin's Bay, and they are not

found at all in St. Ouen's. Neither do they recur on the north-western rock-beaches of Jersey, though so abundant in the neighbourhood of the conglomerate. On the other hand, they have not been seen *in situ* in the conglomerate itself. A few have been found on the Guernsey shores, but these may be parts of the discharged ballast of ships, an explanation utterly insufficient in Jersey. A careful and continued search on the spot can alone decide this point, which is of great geological importance, since it would determine the age of the conglomerate rock.

The sands on the coasts of some of the islands are often drifted in sufficient quantity to be the subject of serious attention, being blown inland by the prevalent winds. It is not very easy to account for particular cases of this kind, and they seem to be in a certain sense capricious.

On the east coast of Jersey, in Grouville Bay, the sands blown do not reach far, and can hardly be regarded as mischievous; but it is very different in the Bay of St. Ouen's, and a large tract of land, some of it considerably elevated, extending far into the interior, has here become covered with shifting sands in a very remarkable manner. Tradition, and even history, speak of extensive change in the level of the coast of the western part of the island, about the end of the fifteenth century; and it appears that about this time the destruction of the once fertile tract called the Quenvais, commenced. The Quenvais is a district considerably above the sea, extending north and west of St. Brelade's Bay, and reaching to the low sandy lands of the southern half of St. Ouen's Bay. Owing to the prevalence of westerly winds, the sands covering the wide flat of St. Ouen's Bay—the largest expanse of unbroken sand in the Channel Islands—are blown steadily onwards, and have at length not only covered the low hills near the shore, but have risen to, and partially overwhelmed the table land of, the interior. It is extremely interesting to watch this almost African expanse of

undulating sands from the coast in windy weather. The horizon is lost in the misty air, loaded with fine particles of sand, constantly in motion, whether the gale come from the west, or from the east. Since, however, winds from the former quarter are both more frequent, and blow steadily up a continuous slope from the sea, while the latter are little felt near the lower ground, the ridge of the hill serving as a shelter, the result is an unmistakeable advance inland, and farms, houses, and even villages, become gradually obliterated. Much grass of that peculiar kind that roots in loose sand has been allowed to grow, but it is quite insufficient to check the evil.

Few of the small islands and rocks within the district of the Channel Islands, are without a low cliff of mixed angular stones and sands, derived from some higher level than that at which they now appear. The Hermitage Island, near Elizabeth Castle, Green Island, or La Motte, between the Grêve d'Azette and St. Clement's Bay in Jersey, some of the Hanois rocks off Guernsey, the island of Crevichon near Herm, the Moie de Mouton and the Gouliot rocks off Sark, are all examples. All these point to the time, certainly not distant, when the sea had not yet severed them from the larger tracts of land adjoining. All help to give weight to the great geological lesson taught everywhere in these islands; namely, the importance of existing causes as agents of change. In this respect, if in no other, the Channel Islands are among the most interesting portions of British land.

The sands of Herm appear to be comparatively fixed, and do not advance over the island. They are the only exclusively calcareous sands in the Channel Islands, and are derived from shells that have lived in the adjacent seas. The sands of Guernsey on the west coast are extensive, and occasionally drift a little, but they have not done injury to the adjacent cultivated lands.

Off the south-eastern extremity of Guernsey there would

seem to be a singular formation going on. Specimens of foraminifera have been dredged there by Dr. Lukis, apparently in a fossil state, but the particulars have not been satisfactorily determined. The specimens found were probably drifted from the continent of France.

In addition to the soil derived from the decomposition and disintegration of all the rocks in all the islands, there are occasionally deposits of some extent, consisting of brick clay, and potters' clay. There are also smaller deposits of kaolin or china clay. All these are derived from veins in the porphyritic rock. Many extensive and thick beds of clay are worked in Jersey, but they offer no characteristic peculiarities. In Guernsey the largest mass of available clay for building and pottery, extends from near St. Martin's church in the south of the island towards the north east, terminating in the lower district near St. John's. There is a vein of kaolin at the Coupée in Sark, and Alderney supplies almost inexhaustible stores of brick clay.

Although certainly presenting little of that kind of interest belonging to countries where many varied rocks succeed one another in well-marked order, the Channel Islands are, then, not destitute of geological charms. They may well instruct even the most advanced student, and they are not without sufficient material to amuse the beginner.

To the collector of minerals and rocks, there is much of interest in all the islands. Many of the most important minerals have been already alluded to; but as many others have been found, a list is given on the next page that may be useful for reference. It might be largely increased by adding the names of the rarer varieties of such minerals as belong to porphyritic rocks and quartz veins. The metaliferous minerals are rare, and almost confined to Sark and Herm. The rocks named may be found in most localities in all the islands.

MINERALS.

Non Metallic Group.

Silica.
rock crystal,
quartzite,
agate,
hornstone,
flint,
chalcedony,
tabular quartz,
jasper.

Salts of lime.
calc spar.

Salts of magnesia.
brown spar,
pearl spar.

Hydrous simple aluminous silicates.
clay,
kaolin,
plastic clay,
brick clay.

Anhydrous double aluminous silicates.
epidote,
felspar,
adularia.

Hydrous double aluminous silicates.
chlorite,
prehnite.

Non-aluminous silicates.
talc,
pot-stone,
steatite,
serpentine,
hornblende,
tremolite,
actinolite,
hypersthene,
asbestos,
amianthus,
coccolite.

Silico-aluminates, &c.
mica,
black mica,
tourmaline,
sphene.

Metaliferous Group.

Titanium.
rutile.

Manganese.
pyrolusite,
wad.

Lead.
galena,
argentiferous galena,
anglesite,
white-lead ore,

Lead, continued:—
pyromorphite.

Iron.
iron pyrites,
magnetic iron ore,
specular iron ore,
brown hæmatite,
red ochre,
yellow ochre,
spathic iron.

Copper.
copper pyrites,
tenorite,
azurite,
malachite.

Silver.
vitreous silver,
horn silver,
antimonial silver.

ROCKS.

Granite,
graphic granite,
syenite,
protogine,
porphyry,
clay-stone porphyry,
amygdaloid,
greenstone,
hornblende rock,
quartzite,
clay-stone,
hornstone,
chlorite,
serpentine,
steatite,
limestone (only in veins),
gneiss,
hornblende schist,
mica schist,
talcose schist,
argillaceous schist,
argillaceous shale,
clay slate.
quartzose conglomerate,
chloritic conglomerate,
coarse grit-stone,
red sand-stone,
kaolin,
brick clay.
potters' clay.
marl.
peat.
sand.

N.B.—The names of some of the minerals occurring in rock masses are repeated in the second list.

CHAPTER XII.

THE FAUNA AND FLORA OF THE CHANNEL ISLANDS CONSIDERED IN REFERENCE TO THEIR PHYSICAL GEOGRAPHY AND GEOLOGY.

THE BURONS, SARK.

It is hoped and believed that the publication of the Natural History lists, in Chapters VIII. and IX., in a state admittedly imperfect, will induce the island naturalists to exert themselves to fill up the *lacunæ*. That these are numerous, is a fact of which the collectors themselves are well aware. It is one, however, that requires no excuse. The simple circumstance that

most of the catalogues were made for private use, and were put into the hands of the present writers at a comparatively short notice, anticipates all reasonable objection.*

But if the lists be only imperfect measures of the actual Flora and Fauna of the islands, they are, at least, favourable measures of the extent to which, in their various divisions and subdivisions, they have been illustrated by local skill and energy.

It is not difficult to anticipate the departments in which they will be least unexceptionable and the points upon which the most work still remains to be done. The fullest and the most sufficient lists are those (as we expect, *a priori*), of the trees, shrubs, and flowering plants, the grasses, the sedges, and the ferns. The nature of the objects themselves is, to a great extent, the cause of this superior accuracy: to greater extent still, the excellent Manual of Professor Babington. The lists of cryptogamic plants generally are the least perfect of the botanical series, and of these the Fungi, perhaps, require most revision. Of the Fauna, we may mention as the most imperfect departments, some tribes of insects, the smaller crustacea, the annelids, and the acalephæ; although many others require careful examination, and a comparison of the species said to occur in the different islands. Perhaps the lists, as a whole, may be regarded as indicating the peculiarities of Guernsey natural history, rather than that of the Channel Islands generally. This arises from the fact that there are more island naturalists there than in Jersey.

That the Fauna and Flora of the islands are those of Normandy and Britany, and that little in the way of novelty is to be expected from even the most microscopic examination, is no reason for neglecting them.

* It will, no doubt, be found that in spite of much care and attention, most conscientiously exercised, many errors of various kinds have crept into the lists. The explanation above given will, perhaps, be admitted as an excuse; and it is hoped that in a future edition the lists will be as much more correct, as they will certainly be fuller.

Even if every list were complete, and if every species contained in each were a French or an English one, with its equivalent on one or both of the opposite coasts, much would remain for the island naturalist that could only be done in the island itself.

Most recent works which go beyond the merest enumeration of species, tell us this; and they do so, by either suggesting or insisting upon the fact, that insular Floras and insular Faunas are invested with an interest of their own, simply because they are insular. In many cases, the smaller the island the more important the phenomena it presents. In its natural productions it either agrees with the nearest point of the nearest continent, or it differs from it; and in either case the fact, whichever it may be, is of interest. Absolute or approximate concordance, like that of the Isle of Wight with Hampshire, is a phenomenon of one kind; extreme difference, like that between Madeira and the coast of Morocco, is a phenomenon of another kind; and in skilful hands, as much may be made of the one as of the other. The intermediate case is that now before us.

During the collection of the preceding lists, the more prominent questions connected with these matters have never been wholly overlooked; these prominent points more especially meaning, to the English reader at least, the speculations of the late Edward Forbes respecting the distribution of plants and animals over the British Islands, and those of Mr. Vernon Wollaston, upon the effects of what may be called insulation (*i. e.*, exposure to the influences of island), in the development of varieties—varieties which, in many cases, are of sufficient extent to engender the appearance of specific differences.

In respect to the first of these questions, it is not only beyond a doubt, but transparently clear, on even a cursory inspection, that the natural history of the islands is French rather than English. It is not only more French than English, but it is decidedly French—French, however, with several notable points of difference. It is the insularity (the islandhood, so to say), of

the islands, which determines these. In this respect, as we have already explained in the chapter on Climate, Guernsey is the typical district. Jersey is, in fact, pre-eminently French, and Sark somewhat less intermediate than might be expected. Guernsey, in other words, is the most of an island; Jersey the most of a peninsular portion of the *terra firma* of France. Amongst butterflies, the *grapta C. album* has contrived in its excursions from the Continent to reach Jersey, where it is by no means scarce; it has yet, however, to find its way to Guernsey and Sark. It may be, that although originally present in all the islands, the conditions favourable for its preservation have been removed by the more perfect insulation that has been produced in the more distant islands in course of time, causing the species to die out. Whatever the reason may be, however, the absence of this species amongst others marks a significant fact. It is from the due consideration of such facts in sufficient number and variety that generalisations are made, and the physical geography and ancient history of physical change of the islands explained and illustrated.

Compared with many other isolated tracts of equal extent, the Channel Islands are rich in both species and individuals; and they are this, so far as they are continental as well as insular. Compared with many other isolated districts, they are characterized by the continental character of their species; or rather, they are conspicuously characterized by the absence of anything peculiar and special to themselves. So far as they are this, they are also continental,—continental of the continent of France.

Concerning the doctrine that the bulk or size of individual animals is encouraged by the conditions which a continent, and discouraged by those which an island presents, a doctrine (or rather complex of doctrines) more especially connected with the researches of Mr. Wollaston—what say the Channel Islands? Mr. Wollaston, considering the diminution in the size of beetles

in detached islands, refers it to the constant and repeated breeding from the same stock. That the bulk of the facts which he has with great care and much discursive investigation brought to bear on his doctrine are realities, is as transparently true as it is true that the doctrine itself is an hypothesis. The question whether certain animals in small islands lose size from the simple fact of breeding in-and-in is one thing, and the question whether they lose size at all, irrespective of the reason why, is another. The latter is the primary one. Every fact, however, commands its due amount of attention; and if there were only one insect in one island which, on the strength of its being an insular representative of a continental species, had been subservient to either the verification or the confirmation of a legitimate hypothesis, no observer would be justified in ignoring the line of enquiry which it suggested. He need not be a naturalist, *ex professo,* to do it. He need only be able to keep his eyes open for certain facts, and when any one of the kind required came within his ken, to make a note of it. There is no need for any writer who (happening to know that the entomology of Lundy Island, the Flat Holmes, and the Scilly Isles, have been studied with a view to certain phenomena) is also writing about the Channel Islands, to excuse himself for looking out for such relevant facts as he can appreciate, and for laying them before the reader as he finds them.

The model way of working some of the problems suggested by the statement that the bulk of individuals falls off in insular localities, would be to take (say) a hundred weight of continental and a hundred weight of insular beetles, or butterflies, and get the difference (if there were one) in gross. But this is what ought to be rather than what is. Nor if it were otherwise, could certain preliminary cautions be dispensed with. It is the opinion of a good and competent observer that butterflies and moths reared in the ordinary way, from the caterpillar state in confinement, are, as a rule, smaller than those caught. Now in the

Guernsey collections most of the specimens have been reared this way, and it is clear that this fact may so far influence the result, as to destroy the value of the generalisation. On the other hand, the same naturalist states that, by special attention to feeding, insects may be obtained actually larger than those in a state of nature. As some collections are made from larvæ kept in confinement, and some from insects caught in the perfect state, it is clear that without much preliminary caution as this, no weight and no measure, no individual observation and no mass of averages, would be of any scientific value.

Bearing in mind these possibilities, we may proceed to allude to a few facts that seem to have a bearing on the question at issue.

In the following short list, the first table contains such butterflies as, allowing for the exceptions already suggested, appear, on a careful inspection, combined with a comparison, of more collections than one, to be larger, as individuals, than their equivalents in England; the second, those which, similarly viewed, seemed smaller.

1. *Larger.*		2. *Smaller.*	
COLIAS edusa.	GONOPTERYX rhamni.	VANESSA polychloros.	
hyale.	VANESSA atalanta.	urticæ.	
CYNTHIA cardui.	Io.		

To which add (from Moths) *urapterix sambucaria,* which a pre-eminently trustworthy collector has never found equal to the English measurements.

There is just a fragment of a system in this: the large Coliades being French and South-English, rather than truly British, butterflies; the small species of *vanessa* and *grapta* being thoroughly English, and (as is instanced by the absence of *grapta C. album* in Guernsey, though found in Jersey) only in part insular. There is a fragment, then, of a system in the evidence as far as it goes; just enough to guard against generalization and to stimulate to wider and more minute enquiries.

Pieris daplidice, like *grapta C. album*, although found in Jersey, has yet to be discovered in Guernsey. Considering that it is taken on the coast of Kent, and even in the neighbourhood of Brighton, its absence is remarkable. Unless the south-coast specimens crossed the Straits of Dover, or unless there were certain inordinately favourable winds, their presence in Sussex and their absence in Guernsey is strange.

The *polyommatus bæticus*—a variety in each locality—has also been found at Brighton as well as in Guernsey. On the 5th of August, 1860, Mr. Newman, junior, forwarded it to Mr. Doubleday, who determined the species; and Mr. Newman, senior, thus notices it:—"The species is common on the Continent, and was seen in profusion along the northern coast of France, and in the Channel Islands."

Speaking generally, the characteristic species of the islands are not precisely those of France, and by no means those of England. Still, the West of England, as it approaches Guernsey in climate, does not depart widely either in its Fauna or Flora. As has been intimated in the valuable remarks by Dr. Bowerbank, quoted in the account of the sponges, there is a kind of overlapping zone in the outlying islands of Guernsey and Sark; so that these localities include much that is peculiar both in north-western Europe and south-western England and Ireland.

The result of generalisations concerning these and other species that exhibit differences, whether between the different islands or between the islands and France, may be stated in a very few words. They bear upon the important inquiry, as to whether the islands are portions of an old continent, gradually diminishing, or of a new continent, gradually increasing.

This question may be considered as settled very positively by the lists presented in the chapters on Botany and Zoology. There is too much resemblance to the natural history of Western Europe, and too large a number of species, to justify any

one in suggesting the bare possibility that they belong to a rising mass of land, receiving its species by migration across water. The number of species is so very large in all departments, and in all the islands, that the separation from the main land is not only certain, but must have been an event recent in the ordinary geological sense of that expression.

The very remarkable state of the land and sea bottom in the open gulf or bay in which are the rocks and islands we have been describing, coupled with some apparent historical evidence, the value of which will be considered in another chapter, has, however, induced a suspicion among many persons, both English and French, that an important depression of European land in the neighbourhood of the Channel Islands, took place so recently as about the end of the eighth century; and again, others less considerable, at many subsequent times, amounting in all to as much as 150 feet.*

At present, then, it must be sufficient to state in general language, that the zoology and botany of the island, as far as they are known, do not support such a view. The islands have no doubt been detached from France, recently enough in one sense, but not in the historic sense. Nor does it seem probable, that since the introduction of the prevailing species any of the islands have existed at a very different level, whether higher or lower, from that they now have.

While on the one hand there is no biological or historical evidence of this great depression, or of the recent separation of the islands from the main land, or from each other, so, on the other hand, is there no geological evidence of recent subsidence.

* This view is adopted by M. de Quatrefages in the book already referred to, and is evidently favoured by other writers, although no tangible arguments are brought forward. A gentleman residing in Jersey is about to publish evidence to the same purport, which he considers sufficient to justify the conclusion which is here controverted, and which will be noticed somewhat more fully in a subsequent chapter on the archæology of the islands.

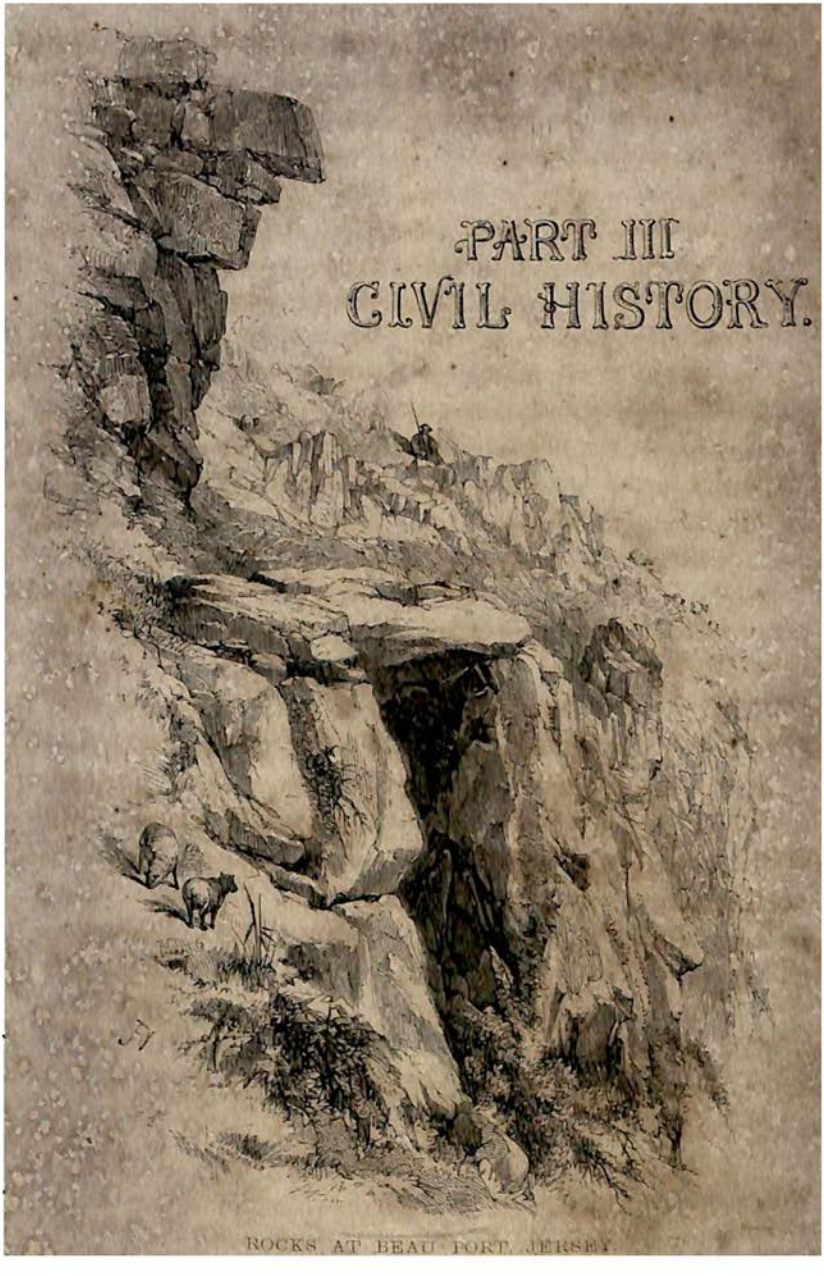
But there is evidence, and that of the strongest kind, everywhere exhibited, of the extremely rapid and powerful destroying action of the sea, which here exercises its influence under peculiarly favourable circumstances.

Nowhere on our shores is the tidal wave so powerful, nowhere are the storm waves so frequent; nowhere is there a coast consisting of material in which so much rock of extreme hardness is penetrated so thoroughly with veins of softer material. The very hardness of the granite, where it is hard, produces an unusual destruction of the softer veins; for, as already explained, every fragment removed becomes a hammer, helping to undermine what is left. Whenever one hard mass is thrown down and broken up another is soon attacked, and thus a perpetual and rapid destruction is caused, increasing constantly in area, and not diminishing in intensity.

It must not hence be concluded that there is no evidence of other disturbance than marine action in these islands. No doubt both the raised beaches and depressed peat beds point clearly to local disturbances of elevation, amounting certainly to as much as thirty feet in both directions. That these have been very partial, and that the raised beaches are among the most modern of the two, is however more than probable; while it is certain that neither of them are traceably connected with larger subsidences, such as are assumed by those who explain the separation of the islands from France, and from each other, in this way.

END OF PART THE SECOND.

PART III
CIVIL HISTORY.



ROCKS AT BEAU PORT, JERSEY.

CHAPTER XIII.

HISTORY.—PAGAN AND LEGENDARY PERIOD.

Notwithstanding their smallness, islands may be invested with notable and definite characteristics. They may exhibit much which is peculiar. They may be the exponents of as decided a nationality as is to be found in a great kingdom. Nevertheless, as far as their influence on the world at large is concerned, islands of the third or fourth magnitude are of an essentially subordinate character.

Yet it does not follow from this that they are below notice. On the contrary, not to mention the interest with which they are invested in the eyes of the natives themselves, they are often illustrative of important details which are better studied on a small scale than a large one. This is especially the case when they are connected with archæological enquiries, and it is the case when there is any notable contrast between the geographical or ethnological relations of a given district and its political ones.

That both these conditions meet in the history of the Channel Islands, is clear. In the full face of all the contrasts, real or supposed, which exist between England and France, the Channel Islands are attached to the latter country in language, to the former in their political history. That they are Norman rather than French, in the stricter and more definite meaning of the term, is true; but, in ordinary language, what is Normandy but

France? What was it but French eight hundred years ago; and what is it likely to be but French till the end of time? What constitutes a Norman? To some extent, he is an ancient Gaul; to some extent, an ancient Roman; and, to some extent, a Scandinavian; but the fact of his being this is a fact of a very general and indefinite kind.

What is a Norman? Those who care to enquire thus far, are, for the most part, ready to enquire further; and, for further enquiry, even on the soil of Normandy itself, there is ample room. If much have been done within the present generation by able national investigators, much to be done remains. Except in the direction of Scandinavia, little research has been expended. That traces of the old Northmen, which were once obscure, have now become clear and patent; that institutions, long deemed Roman, may be Scandinavian; that, in blood and language, there are many more foreign elements than were originally recognised, are the results of much well-applied learning and acumen. But no approximation to the proportion that these foreign elements bear to the remainder has been obtained; neither has the analysis of them gone much beyond the discovery of those which are referred to Scandinavia.

Of the tribes on the mainland, those which, in the time of Cæsar and in the first four centuries of our era, have the best claim to be considered as the remote ancestors of the earliest occupants of the islanders, are the Curiosolites, the Rhedones, the Osismii, the Lemovices, the Veneti, and the Unelli; all mentioned by Cæsar himself as well as by other writers who came after him. A little later appear the names of the Abrincatui and the Bajucasses. All these are referable to some part of either Normandy or Britany, and all seem to have been populations allied to each other in habits and politics. They all belonged to the tract which bore the name of *Armorica*, a word which, in the Keltic, means the same as *Pomerania* in Slavonic; *i.e.*, the *country along the sea-side*.

Of these tribual denominations, more than half still exist; though not so much in the names of tribes as in the names of towns. And this is what we expect. It was the rule in Roman Gaul for the name of the population to be converted into that of its metropolis. Hence, on the principle which gives us *Evreux* for *Eburovices*, *Bourges* for *Bituriges*, and *Paris* for *Parisii*, we have *Vannes*, *Rennes*, and *Avranches* for the *Veneti*, the *Rhedones*, and the *Abrincatui*.

That the system on which these names have been transferred is an important and valuable instrument of criticism has long been known; and it has been worked with skill and acumen by more writers than one. In some instances it appears to have been little more than the return of a modified term to its original meaning; in other words, it seems that some of the old Gallic national names originated in the names of towns; that with these they began and with these they ended. But this is a matter of general (or perhaps, more properly, of minute) ethnology. What is of more importance, is the origin of several of the newer names of the French towns. Many of them are taken from the names of saints, such as St. Malo from St. Magloire, St. Helier's from St. Helerius, St. Peter's Port from St. Peter. In a different way, indeed, from the older names, these tell a story of their own. Still they tell one. They teach us that the towns which bore such names are comparatively new; that they are subsequent in respect to their foundation to the introduction of Christianity; that the monastic preceded the municipal institutions; in a word, that they have their origin in the diffusion of the Christian religion.

Important elsewhere, this fact is of pre-eminent importance in the history of the Channel Islands; inasmuch as the towns and villages therein are, one and all, of this kind; a circumstance which makes us all the readier to believe, that, before they became Christian, they were, if not very thinly inhabited by fishermen or pagan anchorites, of small importance—roughly speak-

ing, all but uninhabited. Had they been emporia for trade, had they been the nests of formidable pirates, the case would have been different. They would have had towns, either actual or decayed, with names given on the old principle.

As for the local names on the opposite portion of the Continent, those that we find in Cæsar are sufficiently intelligible to be dealt with, off-hand, as Keltic. In *Cur-* and *Rhed-*, we seem to have the British *Caer* and *Rhęd*, meaning *fortress* and *ford;* just as we have them in *Rhedecinę*, the old name for Oxford; in *Hert-ford*, where the original British is explained by a German synonym, and a compound as the result; and in *Caerleon*, or *Urbs Legionis*, in South Wales; not to mention *Car*lisle, and others. Upon the name *Veneti* there is room for speculation, inasmuch as it is found in different districts beyond the undoubted Keltic area. Upon the whole, however, the majority of the names in Cæsar are what we expect them to be —Keltic.

Except a naval diversion on the coast of Britany, mentioned in the Commentaries, there is nothing to notice until we come to the time of the Antonines, when we find, in the Itinerary, the important and mysterious name, *Cæsarea;* which, whatever else it may have meant, stood for the island of *Jersey*. Upon the names, however, of the islands themselves, more will be said in the sequel.

In the third century, we see the chance of a new name being likely to dawn upon us. There was a Roman fleet kept on the coasts of Picardy and Normandy, if not on that of Northern Britany as well. Whoever may have manned and built it, it was intrusted to the command of a Batavian—the famous and formidable Carausius, of whose history there are plenty of details; but, as they belong chiefly to the history of Britain, they are, to a great extent, irrelevant.

In the next century, however, the whole of the coast thus brought into the condition of something between a naval station

and a cruising-ground, bears a definite name, suggestive of a special naval organization, and this name is neither Gallic nor Latin, but German; a fact which deserves attention, as being conclusive evidence to the partial Germanization of these parts having begun thus early. As early as the fourth century, the whole coast of Picardy, and a great part of that of Normandy, constituted what was called the *Saxon shore* = *Litus Saxonicum*. The explanations of this term are numerous. Some have held that it denoted an ordinary Saxon conquest; just like that of Britain, only earlier. Others, that it was no true Saxon settlement at all, but merely a coast infested by the Saxons. Others, that the Saxons were a subsidized body of men of maritime habits, who defended it in the capacity of naval colonists—this latter view being the most probable. Explain the name, however, as we may, it gives us an early German element on the land which was afterwards called Normandy. Now, in the well-known work bearing the title of *Notitia Utriusque Imperii*, which was drawn up about the middle of the fourth century, we find that a portion of this district was called a *March*, *i. e.*, a boundary, or frontier land; and one of the earliest of the so-called Norse, or Danish, invasions is attributed to the *Marcomanni*, or *Nordmanni*. As any German from the districts to the north of the Weser might be called a Northman, it is by no means certain that all the inroads effected by these pertinacious pirates are to be credited to Denmark. Some may be given either to the conquerors of Britain, or the Saxons of the *Litus Saxonicum*.

These Saxons of the Saxon shore, during the fifth century, had extended themselves so far to the south as to have not only ascended the Loire, but to have settled themselves in the islands at its mouth. "Wherever you see a Saxon there you see a pirate, and in every Saxon boat are so many Saxon corsairs." Such is the remark of a contemporary. With the habit here suggested, it is likely that they effected settlements in the Channel;

indeed, they have as good a claim to having helped to Germanize Guernsey, Jersey, and Alderney, as the Danes themselves. As a rule they hugged the coast; yet in one of their expeditions, under a chief whose name in Latin takes the form Adovacrius (Odoacer or Ottocar), they attacked Orleans, and were with difficulty repulsed. The fifth century was the time when their bad business most flourished.

With these preliminaries we may look into the details not only of the coast, but of the interior.

The power of Rome is now seriously shaken both in Gaul and Britain; and (pretender after pretender having aspired to the purple) the only question that remains is, whether the natives of the two provinces shall by their own effort effect an expulsion of the Roman legions, or bring the land to that state of anarchy in which it shall be an easy conquest to the first invaders from abroad. In Britain the latter was notoriously the alternative, and to a great extent it was the case in Gaul also. At any rate, the real or supposed histories of the two countries in this phase of their precarious existence, are closely allied. According to the common accounts, it was at this time that Armorica, or Letavia, became *Britany*: the name until then being exclusively limited to the British islands. The first text that bears upon the point, is one from the writings attributed to Gildas, who states that, during their wars against the Saxons, some of the Britons fled across the sea. If this testimony be authentic, it dates about ninety years after the event. Eginhard, about 200 years later, speaks to same event, and with greater precision. He tells us, that amongst Charlemagne's numerous expeditions, there was one against *Britain, on this side of the water (Britannia Cismarina)*: so called, because, when the Angles and Saxons harassed England, a great number of the natives crossed the sea, and settled themselves on the extremities of Gaul, the countries of the Veneti and Curiosolites; for thus late, at least, is this name found in

its full form. Whether all this be genuine evidence to a historical fact, or merely so much inference from the circumstance of the same language being spoken in Armorica and Cornwall, I cannot say. I demur, however, to its being adduced in favour of the present Bas Breton being treated as an introduction from Cornwall. Had no Cornish immigration taken place, the language of Vannes would have been just as British as it is now. The origin of the name *Britany* is another question. Up to the time under notice the current name has been *Armorica*, or *the country along the sea*, the word being Keltic.

The name *Llydaw*, about this time, takes prominence—of course, in its Latinized form; the most curious point connected with it being the fact, that, though it was a British word, a British writer did not understand its meaning. Nennius says that the Armoricans were called in his language (the Welsh) *Letewicion, i. e., semitacentes*, because they spoke indistinctly. The Romans called them *Litiviani*; under which names, in conjunction with that of *Armoriciani*, we may find fragments of their otherwise obscure history.

The consul Ætius—he to whom the Britons (when pressed by the Saxons they fled to the sea, and when rejected by the sea they fell back upon the Saxons), addressed the well-known letter of complaints and requests—had more than one affair with them. In the first place he recruited the army which he led against Attila in Britany; treating them, not as Roman subjects, but as allies: their previous secession and declaration of independence being recognised. They knew him, however, as an enemy as well; and his campaign against them is interesting, from the fact of its having introduced in the western-most regions of Gaul a Scythian population, whose original occupancy was the distant and impracticable range of Caucasus. So, however, it was. In the middle of the fifth century, there was a Scythian army from the other side of the Black Sea in Western Gaul; and Orleans was besieged by it. Strange, if at

the present moment, the name of this population be an ordinary personal name, both in Britany and in Scotland—strange, but not impossible; scarcely unlikely.

The migrations of the *Alani* are some of the most remarkable in history; and, it should be added, that they are essentially historical; *i. e.*, they are authenticated in every detail by cotemporary and trustworthy witnesses. No others are so distant, so elaborate, so complicated, and, at the same time, considering the facts, so well established. The ethnological relations are nearly as clear. The Alans were the near kinsmen of the Huns; and their original occupancy touched the wall of China. They were of the same stock as the modern Ottomans; in fact, they were Turks. Yet we find them in Britany, far beyond the utmost limit ever given to the more formidable and famous Huns. We find them even beyond Britany. They joined the Goths and Silingian Vandals in the conquest of the Spanish peninsula; in which Galicia and Portugal were allotted to them. Afterwards, when Genseric invaded Africa, they joined his fleet, and helped to conquer what was once Carthage. They reached, in this way, the present Beylik of Tunis, a Beylik which the modern Ottomans have conquered from Constantinople, but which the Alans conquered from the Tagus, having previously bathed their horses in the Danube, the Rhone, and the Loire. However, at the time now under notice, they had joined the Vandals and the Suevi, and were in Britany.

The first introduction of Christianity into the Channel Islands may, possibly, be coincident in point of time, or nearly so, with the first introduction of Christianity in Britany. If so, it may have taken place before A.D. 461; inasmuch as one of the bishops summoned to the Council of Tours (provided that the document which bears his name be authentic) was *Mansuetus Episcopus Britannorum*. Bearing in mind that Sidonius Apollinaris speaks of the *Britanni super Ligerim sitos*, or the *Britons of the Loire*, it is scarcely likely that this should mean the then recent settle-

ment from Britain. Indeed, this last text is scarcely reconcileable with it, though not absolutely impossible. Upon the whole, however, it is saying little in the way of disparagement to the Gallic Church to style it a hierarchical and metropolitan, rather than a missionary, establishment, and to infer that such small matters as a few outlying islands were, in the first instance, neglected. The real apostle in Guernsey was either Sampson, whom we may honor by the prefix Saint, and call St. Sampson, or some one about his time. Of him, we have details in abundance, though they are not of the most authentic kind. He preached under the reign of the famous Frank king Childibert, who was rapacious, revengeful, lascivious, unscrupulous, and careless of both the blood of men and the honor of women to an extent which is incredible even for a Merovingian. For a woman, however, his queen, the famous Brunechild, or Brynhilda, was worse than he was as a man. Except, however, as the unwilling patrons of St. Sampson, they belong to Frank, rather than to Norman, or Breton, history. Of the miracles performed before them, we may read at large on the three lives of St. Sampson, one of which (the one found in Dom Bouquet's great repertorium of *data* for the History of France) is considered by its collator to be the work of a near cotemporary; the other two being decidedly later. Dom Bouquet's authority, however, is not so early as the learned Abbè makes it.

St. Sampson's early history is connected with the history of a Breton of noble blood, and (to judge from the occurrence of either his name, or a similar one) elsewhere a real historical character. The details, however, of his personal history are obscure; and equally obscure is the evidence concerning his non-miraculous relations with the saint. It is Saint Sampson, however, with whom this semi-historical Breton is most specially connected. His name was Judael; and he was the son of Jonas, a man of some power and authority in Britany, being dignified by the name of Præsul. For some

unknown object, both Jonas, the father, and Judael, the son, had been kidnapped by Childibert. That Jonas had been put to death was the general, that Judael had shared his fate the partial, belief. The more current opinion was that the son was alive, a prisoner in the capital of Childibert, and that nothing but a saint or an army could free him.

The report of his sad condition, accompanied with the regrets of his people, reached St. Sampson, who, strong in the spirit —*comitante Christo*—girt up his loins to visit King Childibert. He reached his court, where he was well received. He found there a count who was afflicted with the falling sickness, and whom none of the Frank leeches could cure or relieve. St. Sampson called for oil, which he hallowed, and then poured it over the head, face, and hands, of the count, who, forthwith, became a strong and healthy man.

And now the credit of Sampson rose, and he began to speak to the men of the court about the purport of his visit. He had come to see whether Judael were alive or dead; and, if he were alive, to get him set free. So he saw the terrible king; alone, or away from the still more terrible queen: and he was met by a burst of anger and threats. But neither the threats nor the anger frightened Sampson. The king said he should die. The priest answered that unless Judael were set free, they should degenerate from their seeds,—"*degenerare eos a suis seminibus*," whatever this might mean. But the king's heart was hardened, and the degeneration went on, till the people began to tremble for the words of the saint. Then the queen saw him, and said to him more than would bear repeating—*quæ nefas est dici*. At length, he was ordered to communicate with the king—whether in an ordinary interview, or at the holy sacrament, I cannot say. But the meeting took place; and a page was ordered to take a cup of wine to Sampson, which he did with fear and trembling. For the priest looked at him steadily, and the page's hand shook, and the wine was spilled. Then Samp-

son made a sign over the cup, and put it into together (*sic*) in four parts—*in quatuor adunavit partes*. Then the hand of the cupbearer* shrivelled up to the bone. But Sampson quietly took the glass (there is a special statement that this was the material), and said, "This is not a cup for a man to drink out of." Saying this, he made his usual sign, and the hand of the cupbearer was healed.

This was the second of the miracles performed at the court of King Childibert.

But Judael was not set free; for the king had a scruple, arising out of the presence of a vast serpent, which, in some part of his dominions, was doing incredible mischief. Could Sampson prevail over the serpent. Sampson did prevail over it, though the details are not given in the biography under notice. From what follows, we infer that its den was in Angia; inasmuch as, after its subjugation or death, St. Sampson took a vessel, and, having touched at the islands Lesia and Angia (? Augia), went over to the county of the Damnonii; *i.e.*, Cornwall and Devonshire.

Before he did this, he cowed a lion. The beast was kept hungry for some days, and had been chafed into anger by all sorts of savage irritations; but, as he ran upon the priest, he noted the clear eye and the calm gait of the man of God, and lay down at his feet.

Also, like another Alexander, Sampson tamed a desperate Bucephalus. No one could go near him, much less sit on his back. But the saintly horse-breaker made the sign of a cross, and saddled him off-hand.

In the face of so many circumstances as this, and with the principle before us that *where there is smoke there is fire* (a principle which forbids us deny in even the most untrustworthy

* This is the best sense I can give to the passage, which is, *et vino effuso, manus tenentis, usque ad ossa, videntibus multis, crepuit.*

narratives some *scintilla* of fact as a basis), it is unsafe to say that St. Sampson never had a real existence. The legends of the islands themselves confirm the doctrine of his personality, though only to a slight extent. All that they show is that the fame of an apostle bearing that name had found its way to certain localities connected with his history before certain events took place. There may have been an error of fame for all this. That there was either a confusion of some kind or an unlikely coincidence is shown by the obscure but important fact that, just at the very time when the Saint was supposed to be preaching, there is another Sampson, a son of King Childibert's. I submit that both Sampsons can scarcely have been real.

Such the history of the chief saint of Guernsey; the Sampson from whom the harbour takes its name. The concurrent miracles of his conscious or unconscious coadjutor, St. Helerius, of Jersey, must now be given. There are two Sampsons. There is an approach to a second Helerius; inasmuch as till the time of Camden, the eponymus of St. Helier's was confounded with Hilarius, bishop of Poitou. The editors of the Acta Sanctorum have pointed out the error; and it is curious to contrast the acute criticism they display in details of this kind, with their easy acquiescence in the miracles and improbabilities of the biography. The confusion, perhaps, was early; for though, as a living man St. Helerius of Jersey was an early saint, it is only at a late period that he enters into the martyrology. Still he has, at least, three lives: one printed, two in manuscript. Nor is he unnoticed in the lives of other saints. Strange work, however, is made of his name. It is sometimes Helerius, sometimes Elimbertus; and, probably, considering his German origin, the latter is the nearer approach to his real designation. When the life was written is uncertain. It was long subsequent to his death. Hence we must take what it gives us as facts, illustrative, not of the history of the times of St. Helerius, but of the opinion which his biographer formed of those times. In

the notices bearing upon them, two have some slight value. One tells us that the islands were almost uninhabited: another, that he was killed by the Vandals. Like most of the lives in the Acta Sanctorum, the biography of St. Helerius begins with a posthumous preliminary; *i. e.*, the history of his body after its burial. The bodies of saints are always removed; generally to several places in succession; often to two or three places at once. Hence, from Jersey St. Helerius finds his way to Belgium, as we shall see in the sequel.

However, his father was an Austrasian Frank of the parts about Tongres, and a noble whose name was Sigebart. The mother, whose name was Lusigard, was a Swabian (*Sueva*) on the side of her mother, on her father's side a Bavarian. They were both pagans; and, as such, lived together many years without either son or daughter. At length, however, the district was hallowed by a priest and missionary, named Cunibert; who, after having established a name for supernatural powers in the neighbourhood, was consulted by the disappointed husband and the barren wife. "Let the offspring, if there be any, be made over to God and me, and wait events." They did so, and in due time a child was born. What his name was, at first, is unknown. However, he was born, and grew up with his father and mother until he was three years old. Cunibert never claimed him: indeed, he was on a pilgrimage in Jerusalem at the time. But he returned; and reminded the parents of their promise. They hesitated. The child grew: was four years old—five years—six years—was in his seventh year, when he was struck with paralysis. No boy, up to this time, had been plumper, or better-looking. No poor cripple was now more thin and miserable. So Cunibert pressed his claim; and, on condition that he cured the boy, got him to himself and God. Then he cured him. Then, too, he named him. He made him at once a catechumen, and called him *Helerius*, which means *pity*, because God in his mercy had restored him—*quem ilico catechumenon fecit et vocavit*

Helerium, id est misericordiam; quiâ Deus misericordia eum redintegraverat.

Helerius grew to man's estate, and became a recluse. He gardened: but the hares got amongst his vegetables, and ate up his young plants. So, one morning, the saint walked out with the cross in his hand, and marked off a part of his ground for the hares exclusively. Here they might feed. All beyond was his. No hare ever over-stepped the boundary.

But they were liable to be hunted: and one day a bold sportsman followed them over the hedge on horseback. As he leapt the fence, a bough caught his eye, and blinded him. He was now at the mercy of the saint; Helerius made a sign with the cross, and the lacerated eye saw better than the other.

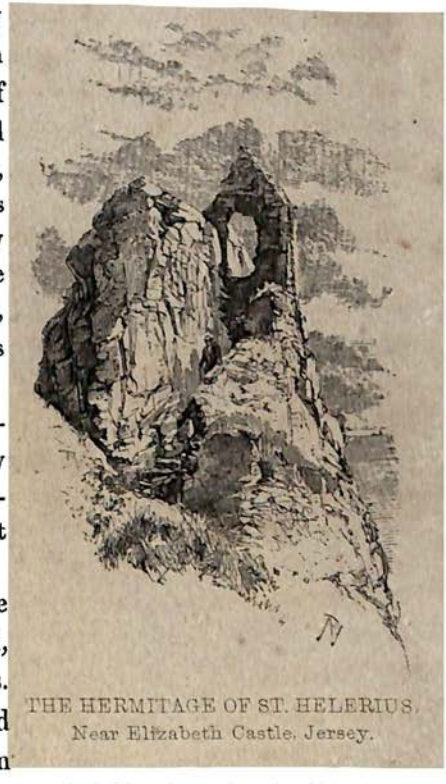
Again, a man fell asleep in an orchard, with his mouth open, and a snake crept down his throat. He betook himself to Helerius, and the sign of the cross brought the snake back again—the way it came; neither mouth nor stomach being the worse.

After this he went to the land of the Morini, or the parts about Calais: where we hear more of his asceticism than his miracles. He dug two holes, knee-deep; filled them with cold water, laid sharp stones at the bottom, and stood on them till his frost-bitten feet bled. Then he guarded against falling either backwards or forwards by a spike. A big nail opposite each shoulder-blade, with two others, for the lumbar region, in a board at his back, provided against the former, a set of awls on a platform in front, against the latter, of these alternatives. Under penance of this kind, in the parts about Calais, he remained five years.

Then he visited St. Marculf at Nanteuil, tempted by the devil on the way; on the way, too, he purified a well.

Having remained for a while with St. Marculf, he resolved upon visiting Jersey, St. Roman being his companion. And here again the names appear in sad confusion. In one life Jersey is Gersut, in another Anga. There is no doubt, however,

about the island intended. It was small, and the population of both sexes amounted to only thirty. This is the number in St. Marculf's life as well. Of these one was paralytic, and one lame. They lay on a rock, and the mark of their legs is there to this day, *i.e.*, the day of the biographer. On the same hard rock St. Helerius slept, and the mark of his head is there also.*



THE HERMITAGE OF ST. HELERIUS.
Near Elizabeth Castle, Jersey.

They preached, and fasted—fasted so effectually, that a few years afterwards, when St. Marculf came to visit, he did not know, them.

And now there are three saints in Jersey; St. Romard, St. Marculf, and St. Helerius. But the times were wicked, and there were pirates abroad. In the life of St. Helerius they are called Vandals, in the life of St. Marculf Saxons. If *Vandal* mean anything, in other words, if

* The Hermitage, near Elizabeth Castle, represented in the engraving, is popularly attributed to St. Helerius or Hilarius, and is interesting geologically as well as historically. It is a mere fragment of a building of rough masonry, on one of a group of detached rocks, evidently torn and broken by the sea since the building was erected.

Other small fragments of similar masonry are on another adjacent rock that may once have been connected. There are also on the rock shown in the illustration very distinct remains of an ancient sea beach, now laid bare by the action of the waves, and likely to be soon removed.

The style of masonry and the nature of the building hardly seem to belong to so ancient a period as that of the real saint.—D. T. A.

it be anything more than a term arising out of the association between the Goths and Vandals, it means either actual pirates from the Slavonian coast of the Baltic, which is not impossible, or Andalusian Spaniards, which is probable. They come, however, in one of the lives from the Orkneys. They come as expected enemies; expected, but feared. St. Marculf had had a dream, which told him what was coming, and he prepared his friends for the worst. The pirates came. The details of their attack are slightly different in the two lives, as are the names and numbers. But they landed. As they were landing, however, one of the saints stretched out his hand, and their ships were all blown off to sea. Then, like the men from the dragon's teeth that were saved by Cadmus, they fought against each other. Still enough were left to decapitate St. Helerius. After which begins the history of his dead body; which may, at the present moment, be either in Jersey, or in Belgium, at the confluence of the Rhine, the Maes, and the Vhal, or in Britany

Igitur merito lætaris,
Devota Britannia,
Quod thesauro fruaris,
Quod dedit Alemannia.

So runs a later piece of verse.

Another names the Vandals as the murderers.

Hunc quem confecerant sitis et macies,
Minuit capite Vandalis acies,
Novum, quod mortuus propriis manibus,
Cervicem detulit plus centum passubus.

With the name of Magloire, the historical character improves. Magloire, however, belongs to Britany and St. Malo, rather than to Jersey or Guernsey, to St. Helier's or St. Sampson's. Nor is it in the character of the biography that the improvement consists. Similar miracles, similar removals of the body, similar burials in two places at once, characterise St. Magloire's life. Still, he is more historical than either of the other two. He

was an Irish missionary; and, as the century was just the time when the Irish was, pre-eminently, the missionary church of the western world, it is more than probable that, like so many other districts, the Channel Islands owed their earliest Christianity to the monks of the school of St. Columbanus.

The fact, however, which lies beyond either doubt or suspicion is that it is to Britany rather than to Normandy that the early ecclesiastical history connects them. It was the diocese of Dol to which they belonged. Nor is this distinction unimportant. Norman as they have been for the last 1,000 years, they seem originally to have been less Norman than Breton; less Norman than Breton so far, at least, as there was, in the sixth century, any notable distinction between the two.

At what period the present broad distinction between the two provinces began is uncertain. The distinction, however, is a valid and decided one. That there are some German and Norse, or Scandinavian, elements in Britany is true; and it is true that there is a good deal of what is Keltic in Normandy. Upon the whole, however, Normandy is the pre-eminently German, and Britany the pre-eminently Keltic portion of France. The local names tell us this, if every other sign were absent; but there is much on each side beyond the names. Up, however, to a certain point, the Channel Islands seem to have gone with Britany.

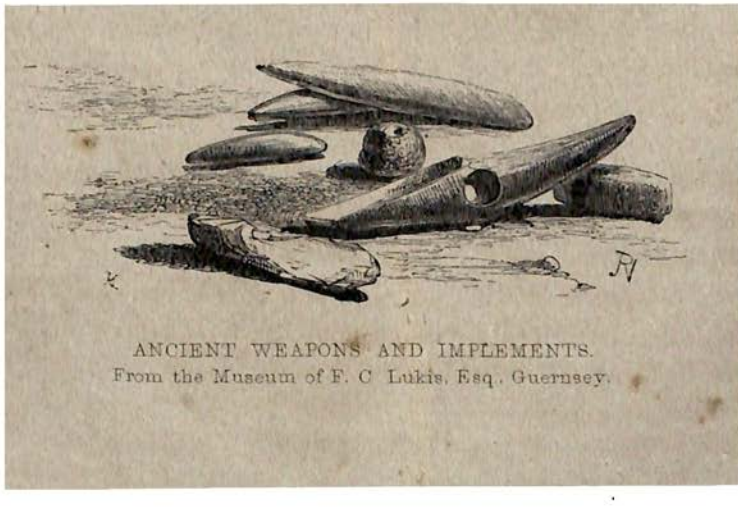
The exact details of the introduction of Christianity in the Channel Islands are absolutely unattainable. With readers who are not prepared to receive with implicit belief the whole mass of unproven and miraculous narrative which constitutes the so-called Lives of the Saints, and with critics who are as well aware as they ought to be of the general unauthenticity of all the earliest monastic grants and charters, it is superfluous to enlarge upon this. At the same time, the general character of the first conversions from Paganism is by no means obscure. We can represent it to a great extent.

It was, in the main, Irish; in saying which, it may be well to add that the assertion is not made by an Irishman. When all that can be said or done in the way of deduction from the extravagant claims of the over-patriotic Irish antiquaries of both the last century and the present has been said and done—when the claims for the green land of Erin having been an isle of saints and a sanctuary for simplicity, orthodoxy, and learning, have been set aside, there still remains the undoubted fact that, for the fourth, fifth, sixth, and seventh centuries, the Irish Church was not only a Christian, but a missionary, one; indeed, with the exception of the two great organized capitals—Rome and Constantinople—it was more so than any other. And it was a Missionary Church in the best sense,—simple, active, and single-minded; with no political ends to subserve, and with nothing but a purely apostolic mission to fulfil. The evidence of this, not resting upon the lives of its saints (though these are, on the whole, more truthful than any others) lies in the earliest accounts of Anglo-Saxon Christianity, and in the numerous German and Italian monasteries which, as has been shown from the Irish MSS. they possess, were regulated after the Irish discipline, and inspected, if not superintended, from Ireland.

These are simply historical facts. In a more special view of the matter, we find that it was with the populations of British and German origin that the Irish missionaries most interested themselves; so that Britany is, of all others, the country in which they are most to be expected. The name, then, of the chief Breton saint, Maglorius, is Irish, and from him comes the name of St. Malo. That the islands were just the spots which such missionaries would choose, we infer from their establishments in the western islands of Scotland; especially Hi, Iona, or Icolmkill. Their discipline was, essentially, anchoritic and recluse; and the lone island, with a rude and simple congregation, was what they best loved. Other propagandists

founded churches; and, in England, we find names like Dun-*church*, and Orms-*kirk*; but, with the Irish, the church was no assembly, but a hermitage, and all the churches in Ireland are *cells*—*Kil*-kenny, *Kil*-dare, Icolm-*kill*=*Columbani-cella*. Surely, all this points in the same direction as the name Magloire and as the few historical notices which we possess. More than this, it improves the evidence in favour of the islands having been, at the introduction of Christianity, lone spots such as anchorites would love, rather than marts of trade, or nests of pirates, for which, if we looked to their position alone, we might fairly take them.

That they had always been this, is by no means, asserted. There was, probably, a Roman garrison on one of them. But it was, apparently, one of no historical importance. It is probable, however, that, with some such trifling exception as this, they were, till the time of Maglorius, the permanent occupation of a few fishers, visited occasionally, or periodically, for purposes which will be noticed in the sequel, by the pagans of the mainland.



ANCIENT WEAPONS AND IMPLEMENTS.
From the Museum of F. C Lukis, Esq., Guernsey.

CHAPTER XIV.

EARLY HISTORY CONTINUED.—GERMAN PERIOD.

ST. BRELADE'S CHURCH, JERSEY.
The earliest Christian church in the Channel Islands.

THERE is nothing written hitherto which touches the chief characteristic of the Channel Islands; *i.e.*, the fact of their being not only French rather than English, but Norman rather than purely and simply French. Again, we ask, what is a Norman, and how does he differ from an ordinary Frenchman—not from a Frenchman of Bearn, Languedoc, or Provence (for there the distinction is patent), but from a Picard, or Vermandois? Everything hitherto written makes the islands Breton rather than even ordinary French. It is impossible to do anything like justice to this question (it ought to be an interesting, and it is certainly

not an easy one) without going into details and refinements which involve a preliminary request of patience on the part of the reader. It is submitted, however, that the minute analysis of the Norman elements in a Norman archipelago is a sufficient excuse for what may, at the first view, seem episodic and irrelevant.

In Norway, William the Conqueror means William the Norman, and William the Norman means William the Norwegian.* This pedigree is clear. He was a descendant of Rollo, who was the son of Ragnar, who was the Earl of Möre. He was a man of such gigantic build that no horse could carry him; so that, from the constraint he was thus put under of always having to go on foot, he was named Rolf Ganger; *i.e.*, Rolf the Goer on foot, or Rolf Walker. As for his exploits, are they not written in the book of Dudo of St. Quentin on the Dukes of Normandy, which was written only two generations after the conquest of Normandy, and on the authority of the conqueror's grandson? Be it so. It must be remembered, however, that this Norwegian extraction finds no place in the actual cotemporaries of the Conquest; and that, in Dudo, Rollo is always called a *Dane:* the Danes being called Danes or Northmen indifferently. These are omissions which are so conspicuous for their absence that they cannot be ignored. They suggest the likelihood of the real Rollo having been scarcely so Norwegian as his historian has made him; for they show the probability of the Norwegians, when the Danes had ceased to be called *Northmen* and when that term was restricted to themselves, having affiliated him upon a Norwegian chief.

The process by which Normandy was Germanized is, by no means, simple, neither is it clear. In doing what is about to be done, *i. e.*, in putting inference in the place of testimony, and giving an approximate sketch of the history of districts for which no history exists, the necessities of the case are simply obeyed. The reader, however, who sees the associated

names of a geologist and an historical enquirer on the title page, may possibly be tempted into the antithesis of saying that the former seems to have written the history and the latter the geology. Such a piece of criticism should be anticipated; and the best anticipation lies in the fact that even the later events of the Islands are pre-historic. This is the case, partly because the events themselves are old, and partly because the earliest dawn of true history is new. To show the extent to which the latter is the case, it may be well, briefly, to examine all the sources of evidence that can possibly, or with any show of plausibility, be adduced. They are few, and easily exhausted. The older records in the islands themselves help us to nothing. They are no earlier, than 1060, if so early. The sources, *aliunde*, are scarcely older. If our district had lain in the east of Europe, instead of the extreme west, the Byzantine writers might have helped us, poor as they are. If it lay off Spain or Portugal, a little might be got from Arabic sources. If the fifth and sixth centuries had not been centuries of anarchy and darkness, Gaul and Britain might have supplied some few authorities; but the time of the classical writers has gone by and the age of an ecclesiastic literature has yet to come. The corresponding period in English history is fully as dark; and, notwithstanding the details that writers of the school of Hume and Turner supply us with concerning Hengist, and Ella, and Cerdic, and similar real or supposed heroes, most of the later critics have long decided against the historical truth of any account antecedent to the introduction of Christianity; and even this has to be obtained from Beda, who wrote 150 years later. Upon this point, Lappenberg and Kemble have spoken with decision, with authority, and with truth. So far as there is a history at all, it is that of the Franks; and, in the hands of a picturesque and imaginative writer like Palgrave, this has taken both colour and consistency. Still it is essentially a personal history; dealing with a dynasty rather than with a great geographical area, and containing much, even

in the way of personal biography and character, which wants confirmation. The several annals of the Frank monasteries are our best authorities, and these, even when trustworthy, are brief, fragmentary, and late.

Of the Breton legends few are pertinent, and none valuable. The oldest go back to the thirteenth or the fourteenth century, at best.

For Normandy as a duchy, the fountain head of our facts lies in the work of Dudo of St. Quentin, and he lived in the time of Duke Richard, the cotemporary of Canute.

Upon the Icelandic sagas many have put great store: but late as is the chief historical work on Normandy, it is decidedly earlier than the oldest continuous saga of Scandinavia. That these compositions look older than they are, is true, inasmuch as they give an account of early events. But the writer of the first of them was only the cotemporary of Henry II. of England, and the oldest poems he quotes, fragmentary and obscure as they are, are no older than the time of Harold Harfager, the cotemporary of Athelstan.

The Saxon Chronicle gives us little but occasional statements. It is not, then, without reason, that the inferential method is adopted; indeed, it is forced upon us. There are many antiquities to be elucidated, and much which is historical in character. But, as they want the evidence of history, the analogies of Normandy and Britany are our only resource, and the record for these is imperfect.

If, however, there be so little in the way of external evidence as embodied in trustworthy writings, and as taken down by cotemporary writers with sufficient opportunities for knowing the truth, as to give us nothing but insufficient and unsatisfactory results, there is another series of facts, which is so definite, explicit, and unimpeachable, as fully to make up for its deficiencies. Where external evidence falls short, internal evidence steps in. Where testimony is silent, inference be-

gins. Now the materials for this are abundant—so much so, that just as numismatists can read the main points in a dynasty through its coins, or the geologist the annals of the earth through its fossils, the early investigator of the maritime exploits of the Northmen can trace them by the marks they have left behind them, not only over widely-distant countries, but over the minuter divisions of the same district. Nor has this material been neglected. Acute critics, with a competent amount of the necessary learning, both in England and Denmark, both in Normandy and Norway, have devoted their best energies to the inquiry; so that, upon the whole, it may safely be said that there is no series of facts, within the whole obscure domain of primitive history, which has given rise to sounder inferences than those connected with the history of the Scandinavians in the South—of the Scandinavians taken collectively as opposed to the Germans, and of the Scandinavians of Norway as opposed to the Danes of the south of the Baltic.

That their language should supply the majority of the most relevant facts is what we expect, *a priori*. It helps us in Orkney and the Hebrides, in Ireland and the Isle of Man, to results of remarkable precision and definitude; and a short notice of what it does in these countries is the proper preliminary to what it does—or fails to do—in Normandy.

In every spot where their early presence is known as a matter of certainty, the Northmen have left traces which still remain, and which no one can mistake. In Orkney and Shetland (to begin with the north), Norwegian was spoken as late as the seventeenth century; and we have not only numerous traces of it in the personal and geographical names of those islands, and in numerous words belonging to common life, but there is also an actual Lord's Prayer of the last century, which neither an Englishman nor a Lowland Scot can understand; but which differs from the literary Danish no more than certain extreme dialects of the remoter provinces are known to differ from each other.

In the Hebrides, we have nothing equally definite, though, on the other hand, there is hardly an island amongst them which has not Norse names for some of its headlands, farms, or towns; especially *Lewis* = the Norwegian *Ljod-hus* = *lading-place*. Add to this that certain notable differences of physical form, industrial aptitude, and real pedigree have been recognised by careful, and even sceptical, observers.

In the Lowland Scotch itself, numerous words are purely Norse or Norwegian—purely and exclusively so. And their character in this respect is important; since it is by no means sufficient to simply find a long list of words common to the two languages. This may be done with the very purest Anglo-Saxon. What is needed, however, is proof that the words claimed for Norway are not only Norse but that they are not German. And this can be done to a sufficient (perhaps, to a large) extent.

What applies to Scotland applies to Northumberland, and Durham as well. Each county shows its appropriate and expected signs of occupancy.

With few exceptions, however, none of the villages to the north of the Tees end in the syllable *by*—a very important affix. Few (or, at any rate, comparatively few) villages in Norway do so either. In Iceland, the most genuine, undoubted, and unmixed of all the Norwegian settlements, it is not to be found in any ordinary map, and if it be to be found at all, it is pre-eminently scarce. It is, perhaps, unnecessary to say that it means *town, village*, or *settlement*.

Having noted its absence, or rarity, in Norway, Ireland, Scotland, Northumberland, and Durham, let us enquire about its presence in Denmark.

In Denmark, it is the commonest of the common. The smallest maps on the smallest scale give us instances of it. In the larger ones, which go into the topography of the small villages and farms, it absolutely abounds. Commoner than the

-villes of France, commoner than the *-tons* of England, it looks as if it were the word which ever came uppermost when the Dane Proper of Jutland, Sleswick, or the Isles, thought about naming a settlement. The largest towns were not too big, a single homestead not too small, for it. On the other hand, it is utterly strange to Germany. Found on the Eyder, found to the north of the Elbe, it is foreign to the Weser, the Rhine, and the Danube, on the banks of which it would be just as easy to find a word like *Trichinopoly*, or *Masulipatam*, as one like *Carlby*, or *Aslackby*. No wonder, then, that its presence or absence, has been allowed to separate not only the Dane from the Englishman or German, but even from his near kinsman, the Norwegian, as well. No wonder that, whilst England is treated as the robbing-ground for the Danes in the limited sense of the term, Scotland has been assigned more especially to the pirates of Norway.

On the Tees, the local names in *by* begin with *Raby* and *Raby* Castle. They increase in the North and East Ridings of Yorkshire, being rare in the West. The north-western feeders of the Ouse, however, seem to have been followed up to the head, until the watershed that divided them from the Cumberland rivers was crossed. This gives us Danes, with their towns in *-by*, on the drainage of the Eden and the parts between Kir*by* Lonsdale and the sea. The sea being reached, a new foothold seems to have been taken; and villages in *-by*, in Annandale, parts of Cheshire, Lancashire, and Caernarvonshire (all near the coast), show the settlements of what we may call the Danes of the Far West. In the Isle of Man, they met the Norwegians, who had reached that island by a *periplus*, having circumnavigated the western coast of Scotland, taking the Hebrides in their way; not without making important settlements in Ireland, as testified by history, and as shown in the names of Strang-*ford* and Carling-*ford* Bays —for it is only in the Norse that *ford* means an *arm of the sea*. Upon the whole, however, Man was Norwegian rather than

Danish, as we learn from the present title of its bishop. In *Sodor and Man*, the former name is the Norse *Sudreyar*, or *Southern Islands*.

In Lincolnshire, the names in *-by* such as Spils*by*, Candles*by*, and more than two hundred others attain their maximum; continuing to be numerous in parts of Leicestershire (especially the valley of the Wreak) and Nottinghamshire, but decreasing in Northamptonshire and in the direction of Warwick and Derby. Between the English of Huntingdonshire and the Danes on the other side of the river Nene, we may trace the line of demarcation to within two hundred yards; indeed, in the parts about the Roman station of Durobrivis, there seem to have been an actual bilingual town; *i.e.*, a town with a Danish quarter on the Northamptonshire, and an English quarter on the Huntingdonshire, side.

The number of the Norse Sagas is so great, and the literary merits of many of them so slender, that, to any one who, without having made a special study of their contents, should commit himself, without reserve or qualification, to a negative statement concerning them, would convict himself of over-haste and temerity. All, then, that the present writer ventures to state is that, after a fair amount of research, instituted with the special object of finding them, he has found, in no Norse work whatever, either the names of any one of the Channel Islands or any notice relating to them. Yet the name of a small island, Herio, off the coast of Aquitaine, has been found, and so has that of the even more unimportant Scilly Islands. These latter, indeed, have a kind of historical notoriety, inasmuch as they give the spot whereon the famous Olaf Trygvason was converted to Christianity. Scilly, then, is mentioned, and so is Herio; but neither Guernsey nor Jersey; neither Sark nor Alderney. And, in like manner, no mention is made of any port or river, rock or harbour, of either the Cotentin or Britany. Of the Rhine and Scald, of the Marne and Oise, of the Somme and

Seine, we have notice upon notice. We know in many cases what navies ascended them and who were the captains that commanded. We know what towns were sacked, and how far the spoilers advanced; and we have the same knowledge for the Loire, the Garonne, and even the Rhone: but for the coast of Britany, we have no notice whatever.

The time of these attacks upon Gaul is exactly the time of the Danish invasions of England, except that, perhaps, they are little later. Within ten years of the middle of the ninth century, *i.e.* between 840 and 860, lies the date of the first permanent settlement of the Northmen on the lower Loire, a settlement which seems to have preceded those on the Seine. The names, too, of the English are often the names of the Gallic marauders; and those of Hastings, Ragnar Lodbrog, Biorn Ironside, Sidroc, and others, appear on both sides of the Channel, sometimes in Ireland as well.

For purposes, however, like the present, we must absolutely ignore all these famous sagas as authorities of a truly historical character. We must ignore them as historical authorities, in spite of the occasional beauties of their style; in spite of its high average merit; in spite of the vivid pictures they give us of the times in which they were written or to which they refer. We must remember that the earliest of them was written in the reign of Henry II., or later, and that this was more than 100 years after the Norman conquest, not only of Normandy, but of England; remembering also, that when England was conquered, the conquerors were Frenchmen rather than Scandinavians; that the Norse tongue was either not spoken at all, or spoken in a few localities: perhaps in a Norse quarter of Bayeux, though this is doubtful. We must remember that the dukes of Normandy and the early kings of England, one and all, bore names like William, Richard, Robert, and Henry, rather than names like Harold, Canute, or Olaf; and that the laws were essentially French and feudal rather than allodial or Norse.

Nor is this a new doctrine. Though many historians have neglected it, one, at least, Sir Francis Palgrave, in his trenchant and decisive manner, draws due attention to it. The old Latin chronicles were subsequent to the events they delivered; but they were earlier than the Anglo-Norman romances which pass for history: these, in their turn, being older than anything (with the exception of a few fragments of poetry) that has yet been found in Norse.

The Sagas were, for the most part, composed in Iceland, a remote and isolated country, in which there was but little geographical knowledge and less historical criticism. What the Icelanders *did* know was this. They knew the character of the inhabitants of their own hardy and independent island; they knew its superstitions and its legends; they knew, in a general way, the recent history of the mother country, Norway; and they knew the later forms which the few fragments of the real history of the northern piracies had taken. These ran to the glory of the Northmen; and, in the thirteenth century, a Northman generally meant a Norwegian, just as, in England, Northumberland meant the county so called. Three centuries earlier, however, Northumberland had meant everything to the north of the Humber, and included Yorkshire. In like manner, three centuries before the dawn of Norse literature, a Northman had meant a Dane, or even a Holsteiner; any one, in short, north of the Elbe. But what if this distinction were overlooked? What if it were the habit, perhaps the pleasure, of the Norwegian chroniclers to overlook it? What if, by ignoring it *in toto*, a great deal of honour, of glory (of a piratical kind to be sure, but still honour and glory) could be transferred from Denmark to Norway? In such a case, the temptation to ignore, or even distort it, would take its way. At any rate, by considering the *Northmen* to be *Norwegians*, the conquest of some important countries could be claimed for Norway.

Seeing the way to a confusion or distortion of this kind,

we may lay little stress upon the Icelandic account of Rollo's parentage and genealogy. That Snorro, who gives it, was a vigorous and picturesque writer, is true. It is also true that he was no mere bookworm; but, on the contrary, a man of action, both in politics and social life. He was, in every way, a man of mark, though not a very scrupulous one. Nothing, too, is clearer than his statement that Rollo, the conqueror of Normandy, was a Norwegian. His father was an earl,—the Earl of Möre. Norway was his birthplace. We must set, however, against this, the fact of the later Norman writers always calling him a Dane, and (what may, perhaps, prove too much) that of the *cotemporary* writers not naming him at all. Should this tendency to tamper with the few historical notices that the later Norwegians fell in with seem exaggerated, let us take a story from the Fornaldar Saga. Ivar Beirlausi, probably Ivar the Legless, or the Short-legged, one of the most prominent of the Norwegian heroes, is a son of Ragnar Lodbrog and his wife Aslaug. He lands on the coast of Northumberland to avenge the death of his father—his father, by the way, who is made to live at three different times at once, and for whom, though we get plenty of minute details (one of which gives us the very words which he sung when put into a barrel of venomous serpents and poisoned to death), we have no accurate date—and having obtained a concession from King Ella (who had no existence at either the time or place ascribed to him) of as much land as he could enclose in a horse's hide; cuts up a skin into thongs, and encloses ground enough for a city, no less a city than the episcopal town of York. To say nothing about York being founded centuries before Ivar's time, what is the story but a rehabilitation of the foundation of Carthage? and a secondhand one too. The Saxons under Hengist are said to have done the same thing, and to have built *Thong* Castle, a name probably suggested by *Ithanceaster*, a real town. The Thuringians did the same. The Russians, who took Moscow,

did the same; and it is not impossible that if the history of British India were written by Indians, Clive would have done the same at Madras or Calcutta.

However, this Northman does it for the third time in early German history only: the notion being suggested by the old name *Yorvik*, and the fact of *jor* meaning, in the poetical language of Norway, a *horse*. If we look to the Norse sagas for history, we should remember the rule in mechanics, that 'nothing is stronger than its weakest part,' and pay attention to such triflings and tamperings as these.

That the history of the Danes has to be separated from that of the Saxons of the Saxon shore, has already been shown. There is, however, a third population, from which both the Danes and the Saxons must be distinguished.

The names of the dukes of Normandy, and (what is more interesting) the names of all the early kings of England, are neither German, in the way that those of the descendants of Charlemagne are German, nor yet Danish, in the way that *Canute* and *Harold* are Danish.

It is submitted that they were Gothic; and it is not difficult to see how the Goths could found a dynasty in Normandy. After the sack of Rome they re-crossed the Alps and overran southern Gaul. They made Toulouse and Arles their capitals, and after they had cut their way farther westwards, Bordeaux. Under Theodoric, they exhibited as high a civilization as was exhibited by any of the early German conquerors, and the magnificence and elegance of the court of their king, is praised by a competent, though partial, witness. As the Frank powers rose, that of the Goths sank; and after the Burgundians had been conquered by Clovis, the expulsion of the Goths followed. They crossed the Pyrenees, and retreated into Spain, where they founded a kingdom, which lasted until the Mahometan invasion. To this it only partially gave way. The remnants of the nation betook themselves to the fastnesses of the Pyrenees, from which,

in due time, they reconquered the whole of their original domain; the present Queen of Spain being of their dynasty. That a fraction of this retained its hold on the more extreme parts of Gaul, is likely. The characteristic names of Richard and Henry —names equally strange to the Northmen and the Franks—appear chiefly in the Spanish and English dynasties; the former as Recared, the latter as Hunneric.

If this view be accurate, there is one of the early invasions of Britain, in which the Channel Islanders may reasonably be supposed to have played a part; a small, and an ephemeral one; but still an early British invasion. I allude to settlement of the Jutes in the Isle of Wight and Hampshire. The notices of these are but few. Still they are clear and precise; more so, indeed, than those of the Jutes of Kent. All three are mentioned by Beda, but with this difference. Of the occupants of Kent, he merely says that they were of Jute origin; a statement that might be made by a writer of the present time, notwithstanding the fact, that throughout the whole of the county, there is no such thing as even the most distant approximation of a Jute to be found or heard of. Concerning the Jutes, however, of the Isle of Wight, he makes the specific statement, that they were the actual holders of the island when he wrote. More explicitly still does he mention those of the opposite coast of Hampshire; of which he says, that "up to this day it is called the nation of the Jutes"—"*Quæ usque hodie in provincia occidentalium Saxonum Jutarum natio nominatur, posita contra ipsam insulam vectam.*" In the Anglo-Saxon Chronicle, this *Jutarum natio* becomes *Jutnacyn*, or *Jute kind.*

Elsewhere* the present writer has gone fully into the details of the origin of these Jutes, and has given at large his reasons against their being considered as Jutlanders from the present peninsula of Jutland, accompanied with the suggestion that their

* "The English Language." Fifth edition: 1861.

real and immediate origin was from the *Goths* of the opposite coast of Gaul, the Goths of the kingdom of Theodoric, the Goths who, either before the rise of the Frank dominion, or during the wars by which the Franks succeeded in reducing them, associated themselves with the Saxons of the sea-coast, became, to some extent, maritime in their habits, and, to some extent also, the invaders and Germanizers of Britain. That we fail in fixing them exactly in the Channel Islands is not surprising. We find them, however, on each side of them; in the parts about Bayeux, on the Loire, and in the Isle of Wight. We find special evidence to some island, at least, having been their occupancy; for one of the notices tells us, that after a battle between the Romans and the Saxons, the latter, having been beaten, their islands were taken and destroyed by the Franks—*insulæ eorum cum multo populo interempto a Franus captæ atque subversæ sunt.* After this, their great captain, Adovacrius, who had taken hostages from the town of Angers, and had otherwise rendered himself formidable to the Franks, made peace with king Chilperic, and joined in an attack upon the Alans. Soon after this, Christianity softened the manners of these rude pirates, and they became peaceful and quiet subjects.

Aspera gens Saxo, vivens quasi more ferino,
Te medicante, sacer, bellua reddit ovim.

So writes a poetical panegyrist of the time, Venantius Fortunatus, to his bishop of Nantes.

That these were Saxons of the Loire, rather than the Seine, Saxons of Anjou and Poitou, rather than of Normandy, and Saxons of south, rather than of north, Britany is certain; but it is also certain that they were the Saxons of the Litus Saxonicum, who had extended their piracies southwards; and it is highly probable that, if they were sufficiently insular in their habits to have established themselves in the small islands of the Bay of Biscay, they were not likely to have neglected the more

important ones of the Channel, which lay so directly in the passage from their northern settlements to their southern ones.

But we may bring them nearer still. That the particular population with which the Saxons may be said to have fraternised, was that of the Goths, is evident from almost all of the scanty notices that have reached us concerning them; and it is equally clear that they were essentially hostile to the Franks. The Franks, however, conquered both; though not without a struggle. And when the conflict was over, the Frank king congratulated himself. Every word of his letter to the emperor Justinian, in reference to this event, is important. In the first place, he mentions that he has reduced the Visigoths of the northern coast of France: this being the Litus Saxonicum; whereas the original Gothic kingdom was on the south and east, in Guienne and Languedoc, with Thoulouse and Arles for its capitals. In the second, he mentions the *Eutii Saxonici*, who, he says, have given themselves up to him of their own accord. Who these Eutii were is a question, concerning which there are extreme views, and much speculation: however, that word for word, Eutii is Jute, no one has either denied or doubted. Thirdly, he adds, that his dominion is extended even to the shores of the ocean. If so, the islands were the probable retreat of some of these Goths of the northern coast, and their near kinsman the Eutii Saxonici, who seem to have been simply the Goths of the Saxon shore, the Goths in alliance with the Saxons of Bayeux, and, doubtless, other cities as well; the Saxons, who made Sussex and Wessex, on the opposite coast of Britain, Saxon, whilst the Goths were making Kent and Hampshire Gothic, or as the later writers call it, Jute.*

The first notice of the Northmen is as early as A.D. 515, more

* The Saxons, also the mysterious *Ot lingua* (?) *Saxonica*. This is a term of uncertain orthography in one of the capitularies of Charles the Bald. Whatever may have been the exact name, the locality to which it applies is well known. It was a district near Bayeux, the pre-eminent Saxon town.

than two centuries before any of their recorded invasions of England; yet it is a very definite and authentic one. The pirates themselves are named *Danes;* their king is named Chochilaichus, a word which has been identified with the legendary Hugleikr, and the still more mysterious Havelok. The place upon which they landed was a *pagus Chattuariorum,* or a district of the Chattuarii, a district which again suggests a German element, and that an early one. More than this, it suggests a population which was neither Gothic nor Saxon, though more Saxon than aught else; for, though the name of the Chattuarii is not a common one, the notices of it, though somewhat scanty, are remarkably definite, and we know a good deal about the population which bore it. Its original locality was the frontier of Holland, in the country between the Maes and Niers, and Geizefurt was the chief town of the district. In the fourth century they were both powerful and formidable, and the Romans, under a commander so active as the emperor Julian, found it difficult to reduce them. Their power, however, was broken, and a great system of colonization was the result. Many thousands of the Chattuarii, along with their neighbours, the Chamavi and Frisians, were transplanted into Gaul, especially in the parts about Amiens, Beauvais, and Langres. Of the settlements thus effected, the best known are those of Franche Compte and Burgundy, and if these were the parts of which we were now writing the history, the very names and localities of the Chattuarian villages could be given.

Unfortunately, the details of the northern and western settlements are far more obscure. That the Chattuarii, however, who were thus attacked by Chochilaichus, were occupants of either Normandy or Picardy, is almost certain; though the doctrine that it was the Chattuarii of the original district in the Lower Rhine has many authoritative supporters. The notice, however, which gives us the name, specially states that Gaul was the country which was attacked, and that the conqueror of Chochilaichus was Theodoric, the king of the Franks. Add to

this, that the name Dane occurs as early as the middle of the sixth century. The panegyrist of the Frank king, Chilperic, wrote of a king whom the Goth, the Gascon, the *Dane*, the Jute, the Saxon, and the Breton feared—

> Quem Geta, Vasco tremunt, *Danus*, Euthio, Saxo, Britannus,
> Cum patre quos acie te domitasse patet.
>
> *Venantius Fortunatus ad Chilpericum, Regem*, 9, 1.

The Euthio here is the Euthian of Saxony, of whom notice has already been taken.

Of Danes, definitely and specially designated by that name, these are the two earliest notices. They are, doubtless, short: but they are, at the same time, definite, cotemporary, trustworthy, and above all, at least three hundred years before the time of Rollo.

When they next appear is in 787, 793, and 794; and it is on the coasts of England that they show themselves. They are mentioned in two places as *Northmen*, or *Danes*. Their fleet consisted of but three ships. They landed on the Isle of Portland, an important locality, inasmuch as it shows that they had ploughed their way across the Channel as well as the German Ocean, and that the southern as well as the northern and eastern coasts of Britain were known to them.

After this there is another pause,—a short one compared with the last, but still a pause. Thirty-eight years later, they come both in greater numbers and more regularly. From A.D. 832 to A.D. 845, there is no year without a Danish invasion. In 851, they winter in the Isle of Thanet. London is attacked. One king, the holy St. Edmund, of East Anglia, is put to death by them; another, Burgred, of Mercia, discomfited. York is sacked; so are the great monasteries of Medamsted, or Peterborough, and Crowland. Indeed, the latter half of the ninth century is the great era of the Danish invasions of England. Checked, however, by Alfred, and Athelstan, they fail to reduce the

island, until, a century later, the Unready Ethelred is succeeded by Canute. Concurrently with the earlier invasions of England, attacks were made by them upon the coasts of Germany and Holland. These, however, were effectively defended by Charlemagne; and all that the Danes are known to have done during the reign of that powerful emperor was to have effected some settlements on Friesland and the islands between the Zuyder Zee and the Weser.

In the reign, however, of his successor, they became as formidable on the Continent as in Britain; and here we shall do well to attend to the few details which have come to us from trustworthy sources concerning them. They are called *Northmen,* and this, perhaps, is the commonest name. It is also a name which, if it stood alone, we should be justified in translating *Norwegian.* But they are also called *Danes;* and, very often, they are called *Danes or Northmen.* That the Norwegian, and even the Icelandic language, was sometimes called the *Danish tongue,* is not to be concealed; so that the term under notice does not absolutely exclude Norway from a share in these conquests. There are, however, other names which tend to do so. One of these is *Marchman;* a term which meant the men between the Elbe and Eyder, or the men of the *march* or *boundary,* between Germany and Denmark. *Marchman or Norman,* is a common expression of the cotemporary writers. Now, though a Marchman might be a German rather than a Dane, he could scarcely be a Norwegian. The names or letters which the invaders used (for they were not wholly illiterate), are expressly called the *Marcomannic* letters; and it is the *Marcomanni* or *Marchmen,* who are specially stated to have sacked Rouen. The last name of importance (for the meaning of the term *Ascomann,* though important elsewhere need not delay us here), is *Nordalbingian;* which meant an occupant of the parts beyond the Elbe; much the same as *Marchman.*

It would be difficult to find a series of terms which, supposing

the men to whom they applied were Norwegians, point so little towards Norway. Neither do they point, solely and wholly, to Denmark. They point to Holstein and Sleswick, rather than to Jutland and the Isles; suggesting a Saxon as well as Danish element. Indeed, Northman is the older name; or (at any rate), it is the commoner one in the older records. It is not until we get to the eleventh century, that the term Dane preponderates. And for this there is a reason. The name *Northman*, was a name applied by the Franks; and they applied it to such Germans and Scandinavians, indifferently, as lay beyond their own empire. They applied it, at first, to the more distant Saxons and Frisians—to all those northern nations who were at one and the same time, hostile, pagan, independent, and other than Frank. However, as the Frank empire extended, the name receded. It first meant all the tribes beyond the Weser; then all beyond the Elbe; then the Danes beyond the Eyder; finally, the Norwegians.

The details of these invasions show us (as far as a negative can be shown), that it was not anywhere and everywhere that the Northmen landed. There are four rivers which they are expressly stated to have favoured—the Rhine, the Scheldt, the Seine, and the Loire. On the first, their highest point seems to have been Bonn; on the second, Dil; on the third, Orleans; on the fourth, Tours. Of their invasions elsewhere—in Spain (where they were well beaten by the Moors); in Italy; in Sicily; and in Greece nothing need here be said. All that lies before us at the present time, are the facts that directly, or indirectly, bear on the history of the western half of Normandy and Britany.

Concerning these, we may safely commit ourselves to the statement, that along the whole coast, beyond Bayeux and the Loire, there is no trace of any settlement from Germany, from Denmark, or from Norway; and that between the Seine and the Loire, there is no trace of any from Denmark. Bayeux was German; *i. e.*, Saxon, as has been already shown: but between the

valleys of the Seine and the Loire the traces of the Danes are *nil*. That the comparatively impracticable character of the coast, with its single harbour of St. Malo (a fact, to which attention was drawn at the beginning of the present volume), has had much to do with this, is almost certain. The fact, however, is more important than the reason for it. Nor is this the only one. It seems as if the Danes had an instinctive aptitude for choosing level and fertile districts like their own, and as if the Norwegians had had enough of rock and hill at home.

Another foreign element was introduced by the Leti. In the beginning of the fourth century, when the Emperor Julian was engaged in a war against the Franks and Chamavi of the Lower Rhine, he wrote that he intended to send a number of youths of barbarous (probably German) origin, who had either been taken captive, or had given themselves up, and whom he called Leti. Of these he made colonists, and placed in several parts of Gaul; not, however, regularly. The greater part was distributed over Belgium, and the Northern provinces. There is special mention, however, that some were placed in Britany, in the parts about Coutances.

And now let us ask what is the conclusion? What and who were the Channel Islanders previous to the development of the duchy of Normandy? The result is a negative one. Yet the chapter that has been devoted to its investigation has been a long one to the reader, and not an easy one to the writer. It is submitted, however, that in some cases an apparently undue amount of preliminaries is excusable, even when it leads to nothing positive. If one doctrine is more generally current than another, it is that the Channel Islands are Norman. Reasons have been given for making them, in everything except their political connection (the importance of which is not undervalued) Breton; so far, at least, as there were anything exclusively. Another doctrine, equally current is, that Normandy was what it was be-

cause it was Norse—Norse meaning Northern or Scandinavian, rather than German. Combine this with the previous one, and the Channel Islands were the same. But, even as a portion of Normandy, they were not this. Yet in Normandy itself the notion is prevalent, general—perhaps universal. All Norman ethnology runs in this direction; as any one may see who consults the writings of either high authorities like Depping, or of the second-hand and third-hand text-books. It may fairly be said, that in southern and middle Europe this is the ordinary opinion. That here and there, there is a passing allusion to the Saxons of Bayeux and to the hitherto unexplained *Otlingua Saxonica*, is true; and it is also true that Ranke has noticed the non-Norman dynasty of the Robertinians, though without a line of explanation or detail; the Gothic element being wholly overloooked, still more the likelihood of these same Goths being the Jutes of Kent, Hampshire, and the Isle of Wight. Of the minor German elements, and of what we may call the early Danes—the Danes of the sixth century—the Danes of Choail-aicus—the Danes of Theodebert's letter—little, if any notice has been taken. Yet the history of the Continent must be, to a great extent, the history of the Island also.

If, after the critics of France, Central Europe, and Denmark, we touch the country of the proper Scandinavians, where with full competence of learning there is, at least, an equal amount of laudable patriotism, there is more than ever that must run the gauntlet of criticism. Let any one visit Stockholm or Christiana, and deny that Rollo was a Norwegian—even though he may have admitted that he was a Dane. He will not pass an uncriticised opinion; unless, indeed, it be contemptuously disposed of as unworthy of refutation or contradiction. Every man to the north of the Baltic believes, that William the Conqueror was from Rollo (as, indeed, he was), and that Rollo was the son of the Earl of Mori. Snorro Sturleson has said it; and though Snorro Sturleson wrote three centuries after Rollo's

death, who shall contradict him? Is not a Northman a Norwegian?

If all this be either exaggeration or error, surely it is worth while to analyse the grounds on which it is corrected.

This is the excuse of the present writer.

He holds that, there or thereabouts, the earliest history of the Channel Islands is as follows:—

1. At first, the occupants were Bretons; few in number, pagans, and probably, poor fishermen.

2. Under the Romans, a slight infusion of either Roman or legionary blood may have taken place—more in Alderney than in Jersey, more in Jersey than in Sark.

3. When the Litus Saxonicum was established, there may have been on them light-houses for the honest sailor, or small piratical holdings for the corsair, as the case might be. There were, however, no emporia or places, either rich, through the arts of peace, or formidable for the mechanism of war.

4. When the Irish Church, under the school of St. Columbanus, was in its full missionary vigour, Irish missionaries preached the Gospel to the islanders, and among both the missionaries and the islanders there may have been a few Saxons of the Litus.

5. In the sixth century, some portion of that mixture of Saxons, Danes, Chattuarii, Leti, Goths, Bretons, and Romanised Gauls, whom the Frank kings drove to the very coasts of the ocean, may have betaken themselves to the islands opposite.

Solely and wholly on circumstantial evidence, it is probable that such was the case. On circumstantial evidence, it is probable that at this time they received a notable and heterogeneous increase of their population; especially is it probable that a portion of the Jutes who settled in the Isle of Wight and Hampshire, became islanders as well as Britons. Under the name *Euthio* we find them on the French coast: under the name *Jute* in Britain. They are accounted for by the Frank

king as far as the sea-side. They re-appear in Hampshire. The islands lie between. The time agrees. That this is circumstantial evidence is clear, and it is only as such that it is put forward.

That the population was scanty before the time of St. Magloire and St. Helerius, is an inference from the names of those saints being the names of the two chief towns.

Hence, the elements of the population of the parts nearest the islands were as follows:—(1) original Keltic; (2) Roman; (3) Legionary; (4) Saxon; (5) Gothic; (6) Letic; (7) Frank; (8) ? Vandal: all earlier than the time of Rollo, and most of them German; to which we may add, as a possible element, the Alans of Britany.

That the soldiers of the Roman garrison were not necessarily Roman, is suggested by the word Legionary. Some of them, indeed, are particularly stated to have been foreign. There is, for instance, a special mention of the troop of cavalry from Dalmatia—*Equites Dalmatæ.*

The Vandal element is the most doubtful of all; indeed, the only notice which suggests it is in the Life of St. Helerius. Still it is not unlikely. Before that saint died, the well-known Vandal settlement in Spain, of which a memorial exists at the present time in the name *Andalusia,* had been made. On the other hand, the settlers had not been there long enough to lose their original characteristic and to have become, like the modern Andalusians, amalgamated with the other inhabitants of the peninsula. It is probable, then, that the murderers of St. Helerius were really what the Life makes them,—Vandals, from the Vandalic, or Andalusian portion of Spain, their original country, as we learn from other quarters, having been Silesia.

Whether the Gothic hypothesis be true, is a question recommended to the able lawyers of the islands, and of Normandy. With a clear perception of the points wherein the Norman Code differs from that of France in general, with a distinct perception of its peculiar characteristics, let them take up the Code of the

Salian Franks, the Danish Codes, and the Norse Codes, and compare them with that of the Goths. The materials for all the collations exist: and to those who can use better than a layman pretends to do, they are recommended.

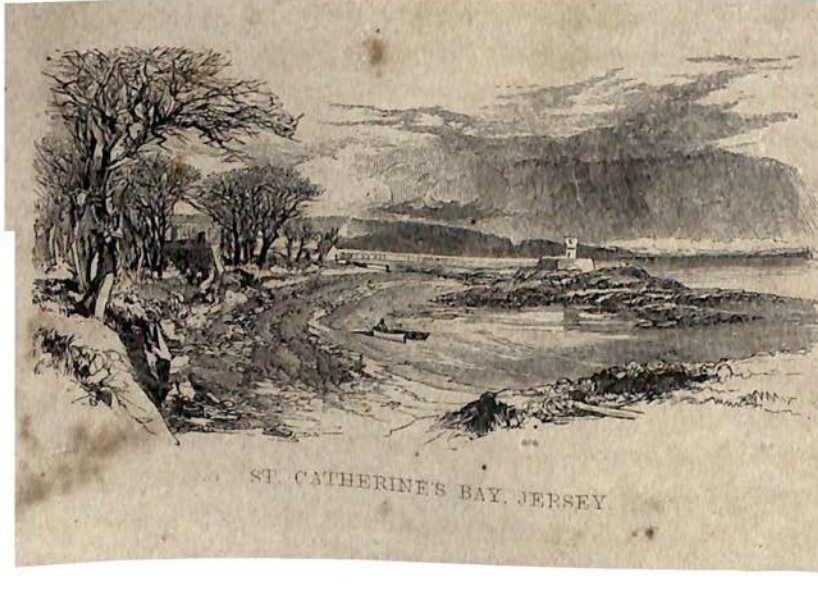
Nor are they without an important bearing upon the history of both Normandy and England; indeed, it is upon these that they bear so decidedly as almost to necessitate the re-writing of some stereotyped chapter in both French and English history. If the Jutes of Kent be Goths of Gaul; if the Jutes of Hampshire be the same; if Hengist be a Goth; if Neustria became Normandy on the strength of Gothic and Saxon rather than of Norse elements, there is surely much to be corrected in most of the ordinary histories.

As to Rollo himself, the whole of his biography is uncertain. Whoever allows himself to criticize, not only the Norse accounts in general, but the minute details of the narrative of our earliest Norman authority, Dudo de St. Quentin, at the same time laying due stress upon the notices of these Northern Goths or Jutes, along with the Gothic character of all the names of the dukes of Normandy, can scarcely fail in having doubts as to his having been a Dane at all. Even if he do, the question as to the origin of the names of the Norman dynasty remains untouched: inasmuch as Rollo never took the name of duke. His son did: but his son, though the successor to his influence and ability, was not the successor to his dukedom. Word for word, Rollo, or Rou, is Rudolf, a Gothic, and not a Scandinavian name—not, at least, either an early or a common one. What, then, was the bold and successful chief who bore it? It is hard to say. Apparently, he was a representative of some powerful Gothic family (perhaps the royal one), who, availing himself of the assistance of the Northern invaders, assimilated himself to their manners and identified himself with their nationality.

If the previous speculations are sound, there must have been a near affinity in blood between the Channel Islanders and the

men of the Isle of Wight. With both the basis was Keltic; with both there was a probable infusion of Saxon blood from the Litus Saxonicum; and with both, which is more interesting, there was, in all probability, a Gothic element as well. At any rate, if we connect the so called Jutes of Hampshire with the Goths whom Theodebert drove to the sea, we may fairly do the same with the Channel Islanders themselves.

[The subjoined illustration represents one of the beautiful bays on the east coast of Jersey, with Archirondelle Tower in the middle distance. It is described in page 99, and is near one of the most interesting of the ancient pagan monuments of the island,—the cromlech, behind Anne Port, figured in another chapter. St. Catherine's is one of the harbours by which access from France is most easy.—D. T. A.]



ST. CATHERINE'S BAY, JERSEY.

CHAPTER XV.

LATER HISTORY, FROM THE NORMAN CONQUEST TO THE BEGINNING OF THE CIVIL WARS.

THE SALERIE BATTERY, GUERNSEY.

For the reign of the Conqueror and the three which succeeded it, we may say, in a rough way, that the allegiance of the Islands alternated; being English under William the First, Norman under Rufus, English under Henry the First, and Norman again under Stephen. This was because the conflicts between the duchy and the kingdom still went on. The Norman barons who had failed to find large estates in England, who were not prepared to Anglicize themselves, who possibly may have looked upon England as the English of Henry the Second's time looked upon Ireland (*i.e.* as a rude country and an uncertain possession), held, that on the demise of the father, the duchy

and the kingdom were separate, and that the former went to the eldest son, the chivalrous but impolitic Robert. Upon this they acted, and, until Robert, after the death of Rufus, was defeated by his surviving brother, Henry I., at Tinchebray, it was with the duchy that the islands went. But the field of Tinchebray, followed by the abandonment on the part of Robert of his rights with his captivity and absolute dependence on the King of England made them English. Then came the reign of Stephen, with his equivocal title: a title which held better in Normandy than in England, and made the islands during his reign, Norman. They could have been no losers by this; inasmuch as Stephen's reign gave us, in England, the *maximum* of either mis-government or anarchy.

With Henry II., the allegiance reverted to its original course—original, at least, so far as the battle of Hastings was its origin; and the sovereign of the islands was, as the successor of William I. and Henry I., King of England and Duke of Normandy besides. He was also Duke of Guienne, or Aquitania; and this domain, combined with that of Normandy, made him a greater power in France than the French king himself. It also kept up the importance of the Channel Islands, even after the loss of Normandy.

Under a king like Richard I., who, out of his eleven years of rule, passed less than as many months in England, little is to be found in even the chronicles of London and York, much less in those of St. Helier's and St. Peter's Port.

But, with John, an important era begins. The key to John's prominence in island history lies in the chronic state of hostility which lay between him and Philip Augustus. It lies, too, in the fact of its being in his reign that, over and above the division between England and Normandy, Normandy was divided against itself. There was the Normandy of the Seine and there was the Normandy of the open sea. There was the Normandy of Rouen and the Normandy of St. Peter's and St. Helier's. There was the

agricultural Normandy and there was the maritime Normandy. There was, to use a classical term of distinction, the Normandy of the Peræa and the Normandy of the Islands. There were the relations of the continent to Venice and the relations of Venice to the continent. And the difference was real. In the reign of King John, the history of the two divisions separates itself into two parts, even as, in the seventh century, the history of Venice separates itself from that of the opposite coast of Italy. Continental Normandy was reduced by Philip Augustus. Insular Normandy was retained by John. The former took the first step in the way towards becoming French; the latter, the first towards becoming English. Whatever John did in the way of evil, he, at least (unless we choose to say that the islands held him), held the islands for England.

No one can have attended to the tendencies of the modern school of what is called history—too often the narrative of events which never happened—without having a certain conviction that, before many years are over, some eloquent expositor of some hitherto unknown records will do for John what has been done for Henry VIII. and others; *i.e.*, will (to use a coarse expression) *whitewash* him. There will be an error of fame; and the barons who won Magna Charta will be the villains of the transaction. John will (after Henry) be the greatest king who has ruled over England; and the facts of his having given a Lord Mayor to London and a constitution to Guernsey will make him the founder of the municipal liberties of Great Britain. Such a history will, doubtless, be written; and it ought to be written in the Islands. To insular Normandy the Constitution of John is simply what the Magna Charta is in England; save and except that, instead of being extorted from the sovereign, it was given by him.

Of this insular Magna Charta, however, there is no original deed. To what there is, there is no seal. It bears the name of John in its heading only. Like Melchisedec, it has neither father

nor mother. There is a copy, which seems to have come of itself; a copy which delivers a series of clauses of a miscellaneous character. It has many elements of suspicion against it as an original document, and it is by native writers that they have been pointed out. A critical investigation of its claim to authenticity by Mr. Haviland, is the basis of the present remarks; so that it is not from the quiver of a stranger that the arrows are shot. However, the facts in the adverse criticism have been verified, and they are unfavourable to the authenticity of the document. The credit, however, on John's side, remains the same. Though the Constitution of King John in Guernsey, may be embodied in only a secondary record, it represents *something;* just like the apocryphal laws of Edward the Confessor in England. His reign, too, is an epoch. It represents the division between the two Normandies.

We may separate, then, the history of the document from the history of the islands and the history of the constitution: remembering that, whatever else happened, there happened in the reign of John the division of Normandy against itself. One of the unequivocal facts connected with this period is the absolute cessation of the Judges-in-Eyre of Normandy visiting the island for the administration of the laws of the duchy. The old practice was for two knights, resident in the island, to administer ordinary justice, but, at stated periods, to be assisted, superseded, or overruled by two visitant judges from Normandy. The function of these latter was now superseded by that of resident jurats. What else belongs to the constitution of John will be noticed in the sequel.

Still, the link that bound the islands to Normandy was not wholly severed even during the reign of John. One strong bond of union still remained; so strong, that it was the end of the sixteenth century before it wholly disappeared. This was the connexion between the islands and the diocese of Coutances. The clergy seem to have been pre-eminently continental in

respect to their politics and feelings, and the canon of Blancheland was one of the first who suffered for being so. He went over to the enemy, and his tithes and revenues were seized and applied to general purposes (especially the defence of the island); with the exception of a fraction, which was reserved as an endowment for the dean. Edward III. appropriated the temporal right of the priory of Mount St. Michael, and presented William de Caillard to the curacy of our Lady of St. Mary of the Castle, from which the Bishop of Coutances himself ejected him, and inducted John Viquet, a Norman. The king, upon this, ejected the Norman: nor was he the first of his name who had done the like. A similar act had been done in Jersey by his grandfather.

If the king failed to fill up a vacancy within six months, the bishop appointed; but this was, in practice, only under sufferance. When a Robert Lyset was nominated to the rectory of St. Peter's, the bishop refused to induct him on the plea that the presentation on the part of the king was made after it had lapsed. Upon this, the king sent a peremptory order commanding him to either induct his nominee or forfeit his temporalities within the islands. In one, and perhaps more than one, instance the pope himself appointed.

The real authority of the bishop was exercised by a surrogate, who united the functions of dean, archdeacon, and chancellor. The priors formed another disaffected body of ecclesiastics. How much property belonging to the religious establishments of the island lay in Normandy is unknown. It is only certain that a great deal of the property in the island was appropriated to religious establishments in Normandy. This carried with it the residence in the islands of a large body of aliens. Disaffected throughout, they were finally banished by Henry V., on the plea of their being little better than spies and traitors. It was by degrees, then, rather than by any sudden snap that the bond ecclesiastic was unloosed.

Under Henry III., the islands are mentioned in conjunction with Gascony, a portion of the Aquitanian dominion, the dowry of Henry II., still held by England.

Under Edward I., there is a notice of disturbances; and, under his successor, of confusion and anarchy. With Edward III., a better state of things began.

The exact details of the minute history of the important privilege of neutrality, as granted to the Channel Islands, are obscure. But, in proportion as they are minute, they are unimportant. Besides this, they are so much earlier than even the earliest beginning of the commercial prosperity of either Jersey or Guernsey, that the careful investigation of them would be little more than a matter of literary curiosity. According to Duncan, there is a difference of eight years, between the ordinary and the real dates of the first ordinance of neutrality; and, according to the same writer, Guernsey had, for a short time, extensive possession of it.

In 1380, Pius IV., in the tenth year of his popedom issued a Bull, in which he anathematizes and excommunicates any one who shall molest, grieve, or disturb the islanders. It was a Bull which was violated two years after its issue by the vice-admiral of France, who seized and detained a Guernsey barque, but it was obeyed by the French king, who ordered the release of it. Four years after it was formally registered, and published in France, and it received the royal signature at Senlis, August 2, 1386.

A little earlier, Francis, Duke of Britany, had published it A.D., 1384, in his own duchy, where it was acted upon fairly, though strictly. A Guernsey barque had been taken by a privateer. The islanders were released; but the English were declared a lawful prize. Such the working of the Bull of Pius IV., and its concomitants; ranging from 1380 to 1390.

The document, however, which is noticed by Duncan, is eight years earlier, being a safe conduct from Louis, the Bastard of

Bourbon, then admiral of France, in the name of the king, dated Vologues, February 25, 1372. It "forbids all the subjects of the king of France, and all those of his allies, to molest, in any manner whatsoever, the inhabitants of Guernsey, either in their persons or their property; or the inhabitants of those islets or rocks depending upon, and adjacent to, Guernsey; such as Sark, Herm, and others, which it is practicable to reach at low water, excluding all others, except the Parish of the Vale, Lihou, and Castle Cornet; and this order was to be in force till the 15th of April following, when a general safe conduct was promised.

"As all other places not named in this preliminary order were excluded from the privilege of neutrality, it is clear that neither Jersey or Alderney participated in its benefit."

The main facts, however, are clear and patent. From the reign of Edward III., till the reign of William III., the Channel Islands were, one and all, free from foreign aggression, especially on the part of France, and, most especially, from the Breton portion of it.

The oldest charter which Guernsey possesses upon this point belongs to the reign of Henry VI.; but it is a confirmation of previous ones rather than a primary document; and it cites, with the special statement that they have been inspected and approved, previous ones of Edward III., Richard II., Henry IV., and Henry V.

Two events, however, of some importance during the reign of Edward III. touch Guernsey, though it is difficult to say how closely. There was a naval battle fought off the island, and there was a descent on the coast. Whether they have any closer connection with the insular history, and whether they explain any of the local names and legends, is a matter on which a few remarks will be made in sequel. Let the coast of Guernsey be the place, and the time A.D. 1343.

England, at this time, has three formidable enemies, all

powerful on the ocean, and two of them, even in naval skill and enterprise, her equals or her rivals. The chronic state of warfare between Edward and the king of France, Philip, gives us France: but France was in close alliance with Spain, and commanded not only the use of the Spanish fleet, but the services of the best naval captain of the day, Don Louis de la Cerda, equally well known as Don Louis de España. Bold, enterprising, and skilful, he was equally unscrupulous, sanguinary, and rapacious: indeed, in the naval wars of this period, he is by far the most conspicuous personage. The third navy combined against us was that of the Genoese, who sometimes under the name of reprisals, sometimes as pure and simple pirates, and sometimes as allies of France, set at nought all that the prudence, the spirit, the courage, or the resources of Edward could move against them. In one of his expostulations, he fairly charges them with having, in a time of peace, invaded the soil of England.

When the war, then, concerning the succession to the dukedom of Britany broke out, they were ready to swell the naval forces of France and Spain, in support of the claims of Charles of Blois, nephew to the king of France, who claimed, in right of his mother, against John, Earl of Montfort, who had offered to hold the dukedom of Edward as king of France, provided he would assist him in his claims. The treaty was kept secret for a time, but for a time only. Montfort was taken prisoner; his countess, one of the virago heroines of the time, was besieged in Hennebon, but relieved by the English; so that, after a time, the war was transferred from the land to the sea, and Robert of Artois, Earl of Richmond, was opposed to the formidable Don Luis.

With a fleet of forty-six vessels of moderate burden, the earl left Southampton with succours for Britany. His object was known, and Don Luis, with thirty-two ships, one thousand men-at-arms, and three thousand Genoese, was ordered to intercept him.

He waited off Guernsey to do so. The English were delayed by contrary winds, but, on approaching the island, they recognised the enemy in their "Spanish carricks, high-built, and greater than any one of the English." The numbers, however, were in their favour. The trumpets were sounded, the banners raised, the ships set in order, the anchors planted on the deck. In three of the largest Spanish ships were the three admirals, Carlo Grimaldi, Odoardo Doria, and Don Luis himself.

By the archers and by the gunners, on each side, the main part of the work had now to be done. Each company had the national weapon—the English the long, the Genoese, the cross-bow. When the combat became closer, the ordinary fighting-men bore themselves bravely; but, more notably than either man-at-arms or archer, the Countess of Montfort herself. She "was," writes Froissart, "well worth a man, for she had the heart of a man, and she had in her hand a rusty, but sharp, sword, wherewith she fought fiercely. The enemy, from their high ships, threw down great bars of iron, and other weapons prepared for such service, and thus they greatly annoyed the English archers. This was a great engagement, which could not but have ended with great loss on both sides, if it had been carried to a close. But the god of battles ordered it otherwise, for the fight having begun about evening, and night came upon them so dark and dismal, that they were all forced, as it were by concert, to give over, for they could discern nothing to any purpose." So they prepared to lay by for the night. But a storm arose, "as though all the world should have ended, the elements contending with as great animosity as lately the two fleets had joined. There was none so hardy but he would gladly have been on land, the ships dashing so together, that they deemed all would be riven to pieces." The English then made for the coast of France, and landed near Vannes. The Spaniards stood out to sea.

The next name is that of Ivan, Iyan de Galles, or Wales—

Evans a Welshman, as he would be called in the English of the present time. All that is known about him is from the following extract from Froissart, which tells us—

Evan of Wales was the son of a prince of Wales, whom King Edward, for some reason I am ignorant of, had put to death, and seized his territories and principality, which he had given to his son, the Prince of Wales. Evan went to France, to lay his complaints before King Charles, of the injuries he had suffered from the King of England, by the death of his father and the seizure of his inheritance.

The King of France had retained him in his service, and much advanced him, by giving him the command of a large body of men at arms. In this summer he sent him to sea with four thousand fighting men, with whom he acquitted himself much to his honour, as you shall now hear.

When he took command of these men at arms, and vessels which the King of France had equipped and provided for him, he embarked in the port of Harfleur, and set full sail for England, making the island of Guernsey, which lies opposite to Normandy. Edmund Ross, squire of honour to the King of England, was then governor of that island.

On hearing of the arrival of the French under the command of Evan, he was much angered, and advanced out to meet him. He issued his summons throughout the island, which is not large and collected, as well of his own men as of the islanders, about eight hundred, with whom he gave battle. It was sharp and long; but the English at last were defeated, leaving upwards of four hundred dead on the field. Edmund was forced to fly, otherwise he must have been slain or taken. He escaped with great difficulty, and saved himself in a handsome castle, called Cornet, situated two leagues from where the battle had been fought, and which he had beforehand provided with every thing necessary for such a fortress.

After this defeat, Evan, having collected his army, and hearing that Edmund had retreated into Cornet Castle, advanced thither, and invested it closely, giving frequent assaults; but the castle was strong and well provided with artillery, so that the French could not gain it.

It was during the time of this siege the unfortunate defeat and capture of the Earl of Pembroke and Sir Guiscard d'Angle happened before la Rochelle, which has been just related.

The King of France, when he heard of the success of the Spaniards, was exceedingly rejoiced, and paid more attention than ever to the affairs of Poitou; for he thought, perhaps lightly enough, that, if the English should have a few more such defeats, the cities and principal towns would soon surrender to him. He therefore determined, with the advice of his council, to send the constable and all

his men at arms into Poitou, Saintonage, and the Rochellois, in order to carry on the war more briskly by sea and land, whilst the English party should be without a leader, for the whole country was wavering in its allegiance. He therefore sent messengers to Evan of Wales, who was lying before Cornet Castle, as he was perfectly acquainted with the state of it, and knew it to be impregnable, ordering him instantly to break up the siege, to put to sea in a vessel equipped for him, and to make sail for Spain, to prevail on King Henry to grant him boats and galleys, with his admirals at arms, to blockade Rochelle.

Evan, on receiving the messengers with the king's orders, promptly obeyed them, as was right, broke up the siege and disbanded the men, lending them vessels to carry them to Harfleur. He himself immediately embarked on board a large ship, and made sail for Spain. Thus was the siege of Cornet Castle raised.

In Henry V.'s reign, there was—as is well known—a great French war. There had been a smaller under his predecessor; and there was a greater and (to England) a more disastrous one under his successor. In all of these, the islands were harassed. In the last, the French held Jersey for six years.

For the reign of Henry VII. we have the following notice:—

The said Mr. Robert and Richmond arrived at this town of Portsmouth on the 22nd day of June, and were there for the space of twelve days before [there was] a wind that could suit them. And on the thirteenth day they left Portsmouth, which was the 4th day of July, about nine o'clock. And the wind blew from the north-west all that day till evening, near sunset, and then the wind changed to the south. And nothing could be done but to cast anchor, because the wind and tide were against us. And we cast anchor beyond Poole, in a place called Swanzee.* And there we were till eleven o'clock, before midnight. And then we weighed anchor. And the wind and tide remained [favourable] till next morning at five o'clock, and with this short wind we gained Weymouth. And there we were all that day, which was the fifth day. And on the sixth day, at ten o'clock at night, we left Weymouth, against the wishes of the sailors, because the wind was insufficient; but Master Clifford commanded them to depart, to shorten the voyage, so as to make the more haste to accomplish what the king had commanded us. And all that night after we had set off the wind blew west north-west, but so lightly all that night and all next day, that it was impossible for us to gain the coast of Britany, but we were obliged to take the isle of Guernsey, which we did.

And as we were entering the harbour of St. Peter's Port, two ships of war came out upon us, the one from St. Malo, of forty tons burden, and the other of Cher-

* Doubtless Swanage.

bourg, of thirty tons burden. They attacked us very fiercely; but we defended ourselves from them, God be thanked, so well, that if Master Clifford had allowed, we might have taken both of them. But Master Clifford would not have our people to fight until we should be landed, because he would not run the risk for the sake of the great charge we had in our embassy. And so we were landed at Cornet Castle; and there the lieutenant came to receive us, with the soldiers of the castle, which lieutenant was still called John Apris. And after we were thus landed, Master Clifford prayed the said lieutenant, that it would please him to lend him some of his soldiers to assist the ship, and that they might give chase again to the two French ships, or else that he would fight them. And the said lieutenant said that he would do so very willingly; and he lent him fourteen men, who went on board. And as soon as they were on board, the master of the ship ordered to weigh anchor and lower the sail, and took to the chase after them. But the wind calmed on them, and the French had not courage to wait, but went away and put to sea. And so our people returned to the said harbour of St. Peter's Port.

When we had come to the said port, we found there four ships of French pilgrims, among whom was the Grand Porcon and his wife, and another knight, called Morgan, who were going on a pilgrimage to St. James. We arrived in the town of St. Peter's Port on the 7th day of the said month of July. And there we remained till the 11th, which was a Sunday; and that 11th day in the evening at sunset we left St. Peter's Port with a wind from the north-east, and arrived at Lantregier next morning at six o'clock, which was the 12th day of July.—*Machado's Journals. First Embassy to Britany*, 1490.

Until the Reformation, there is little to be recorded. The Bishop was still the Bishop of Coutances. The religious establishments, though naturally weakened and impoverished by Henry V., still had something which could be confiscated; and the procedure by which the monasteries were abolished in England was extended to the island. Under Edward VI., the English liturgy, translated into French, was introduced, and the mass abolished. Under Mary, there was more than the usual amount of revolting and inhuman martyrdom; and there were other persecutions in which the Roman Catholics were the victims, even less justifiable under Elizabeth. This, however, is merely the history of England in general.

In 1656, the Bishop of Coutances acted for the last time as

the Metropolitan of the islands. He pressed certain pecuniary claims, and the dean was ordered to answer them. The bishop ignored the dean; and the dean said that if the bishop would renounce the pope and swear allegiance to the queen, he should be acknowledged. The bishop never got his money; and, two years afterwards the islands were finally separated from Coutances, and were attached to the see of Winchester. This was not an absolute innovation. For a short time, during John's reign, they had been transferred to Exeter, and for a short time, under Henry VI., to Salisbury. This latter transfer had the sanction of Pope Alexander VI. Indeed, it was a political rather than an ecclesiastical alteration: Salisbury being as Papal as Coutances; Coutances no more Romanist than Salisbury. The transfer, however, of 1688 was not only from Normandy to England, but from the region of Catholicism to the region of Protestantism.

The times, however, required elders rather than bishops; for, whatever may have been the subsequent character of the insular churches, their initiation into Protestantism was largely Presbyterian. And this is what we expect *a priori*. So far as France was Protestant it was Calvinist; and, as long as Protestantism was persecuted, Guernsey and Jersey were the retreats of numerous successive refugees, who had no difficulty in propagating their tenets among a people of the same blood and language as themselves; and this they did so effectually that, before the accession of James I., the bailiff, the governor, and the dean, and most of the other notables had either joined in constituting a consistory, or encouraged its establishment. Nor had the queen set herself against it. On the contrary, she had expressly allowed it for the towns of St. Heliers and St. Peter's Port. But it spread beyond these precincts; and complaints were preferred by the regular clergy that the falling-off of their revenues was fast reducing them to poverty and starvation. Meanwhile, the elders and deacons appointed by the rest of

the community were joined by the jurats, and not discouraged by the queen.

Her successor was less inclined to let matters take their course; and with the accession of James I. begins a notable divergence between the history of the two chief islands, a divergence of which definite and decided traces are still to be found. The key to it lies in the patent difference between Anglicism, in church matters, and Presbyterianism. Of Romanism, there was little left; but, of a predilection for those portions of Romanism which were compatible with the doctrines of the Church of England, and of a repugnance to them simply because they were Romanist, there was, at the death of Queen Elizabeth, as there is at the present moment, more than enough. Nor is it easy to account for them *a priori*. Heylin's view of the matter, which leads us but a little way towards the solution, suggests that accident had a good deal to do with it. The king, with his strong Episcopal views, was enough of a North Briton to know that Anglicism was not easily forced upon a population which was unwilling to receive it; and that, if it were to be forced at all, the process must be carried on covertly. He meant, then, to deal with one island at once,—taking each in its turn. For some reason or other that of Jersey came first. Hence, it is chiefly in its ecclesiastical aspects that the reign of James I. is important.

On his accession, he was greeted by both islands with a loyal and congratulatory address, not unaccompanied with a memorial in favour of a confirmation of their privileges. These were duly set forth, examined, and ratified. The royal court was empowered to levy dues on both foreign merchandize and home products for the maintenance of the necessary public works; and when complaints (in Guernsey, at least) had arisen concerning the powers of the governor, and a limitation was demanded, it was ordered that he was not to overstep the boundaries of the constitution. Upon his either pressing, or appearing to press,

his prerogative, Sir Robert Gardiner and Dr. Hussey were appointed commissioners with power to settle disputes. The same names, however, will re-appear in the ecclesiastical contests, of which a short notice may now be given.

In the first year of the king's reign, the Dean of Jersey, Dr. Bandinell, along with other clergymen of the island, drew up a body of canons agreeable to the discipline of the Church of England, and submitted them to the king. They were approved in England, but objected to in the island, especially by the Carterets, who were then not only the leading men in Jersey, but Jerseymen of a Presbyterian turn of mind. These objections were referred by the king to the Archbishop of Canterbury, and the Bishops of Lincoln and Winchester, who succeeded in modifying them in such a manner as to bring about a compromise. On the 30th of June, 1603, they were confirmed and accepted,—accepted in Jersey, but not in Guernsey. Nor did the Guernseymen change their mind on the matter, notwithstanding both pressure on the part of the king, and persuasion on the part of some of their fellow islanders.

The details of this change in Jersey are given by Heylin. The curate of St. John's parish died, and the colloquy appointed to the vacant benefice. Their *nominee* was the learned and courageous Brevint.

However, under James I., the bias in Jersey was for the king, in Guernsey for their own opinions; and this dualism between the chief islands, which existed in the matter of Episcopacy and Presbyterianism, existed in their political bearing during the wars between Charles and the Parliament. Jersey was for the king; Guernsey for the protector. There was, of course, a loyal minority on the one, and a republican minority on the other hand. The preponderating feeling, however, on each side was decided.

The war declared by Charles I. against France, in which the descent of the duke of Buckingham on the Isle of Rhè was

followed by a discreditable repulse, was the harbinger to the Channel Islands of the most important events of their history. The civil war was only in prospect, and had yet to break out; but the earl of Danby was governor of Guernsey, and it was the earl of Danby, as a royalist, whom the parliament, after the war had broken out, superseded by the earl of Warwick, as a constitutional, governor. In 1628, however, it is for protection against the French that the earl of Danby applies; and it is only partially and incompletely that his request is attended to. Troubles threaten, money is scarce, the sea is stormy, and it is in the month of December, A. D. 1628, that the squadron is due. It is not got together. The Assurance, of forty-two guns, two pinnaces, a ketch, and a merchantman, transport four companies, of which two are landed in Jersey, two in Guernsey. Peace, however, was made early in the following year, and the danger that threatened the islands from the side of France blew over. Nevertheless, the voyage of Danby was an important one. A *vates sacer* accompanied him,—Heylin.

Heylin's stay in the island was but short, not exceeding a fortnight. Hence, it is not for any minute details, or for information otherwise unattainable, that his work (with the exception, of course, of the narrative of the special business which brought him over) is referred to. It is little more than a book of travels, founded on an excursion in France; the first, or nearly the first, of a long, but not honoured, line of successors. As this, it is curious; curious for showing how things foreign to England struck an observant, learned, and acute Englishman.

The density of the island population excited his wonder; though, in putting the sum total of the inhabitants at 20,000, he has, doubtless, fallen into an exaggeration. But, though thick, the population was poor; and both the poverty and the populousness he attributes to the law of inheritance (the gavelkind of the islands, as he calls it), with its minute division and sub-division of the land. He finds the belief in witches and the

vulgar forms of sorcery prevalent; and, as he could not but have seen something of the same kind in England, we must suppose that it was excessively so.

He admires the patriotism and the English nationality of the people; along with the utter absence of any French sympathies. Though French in language, they are English in everything else; under a *libera custodia* and "not in any way acquainted with taxes." In the privileges that cut them off from this acquaintance, and in the devoted Protestantism of their creed, he saw the chief elements of their English feeling.

To all this he speaks as a personal observer. As a retailer of anecdotes he is less unexceptionable. The worst of the stories concerning the martyrs to Protestantism under the reign of Mary is due to Heylin; and for this he went by hearsay.

The account to which this remark more specially refers is so horrible and revolting that we are both bound and willing to take every legitimate exception to the evidence on which it rests in the hope of finding it inaccurate. One of the martyrs was a Perrotine Massey whose husband was a minister. Whilst bound to the stake and burning, she gave birth to a child; "a goodly boy, which was presently snatched up by W. House, one of the bystanders. Upon the noise of this strange incident, the cruel bailiff returned command that the poor infant must be cast again into the flames, which was accordingly performed; and so that pretty babe was born a martyr, and added to the number of the innocents." Duncan, as every one would be, willing to invalidate this shocking statement, appends to his extract from Heylin, some remarks by Mr. William Le Marchant, and by Mr. J. B. Tupper, both independent critics. The former are chiefly in excuse of the bailiff, under the plea that he was only acting under the orders of the spiritual court. The latter denies the fact, stating that, on the evidence of Parsons, Perrotine Massey was a prostitute who had concealed her pregnancy, but who was, nevertheless, delivered of the child before she went to the stake.

It is clear, that the likelihood or unlikelihood of this rests on the value of Parsons as a witness.

Now, every known detail of his life is against his credibility. He was not only a Jesuit, but an apostate; not only an apostate, but an apostate because he had been detected in dishonesty. He was, moreover, an acknowledged advocate, and a very unscrupulous one. The act which he wishes to get rid of was sufficiently odious to require either defence or denial; and to the defence of it, with such a man, the rule *qui s'excuse s'accuse* must apply. As he wrote before Heylin, we must cite his defence as evidence to the original charge having been made; a circumstance which Heylin most likely knew.

Heylin, then, as to the fact, is scarcely an authority at all. Nor is Parsons a sufficient authority for the denial of it. Both were decided partizans: the one ready to either suppress or invent anything which would tell against his new creed; the other, willing to hear and record of anything against Queen Mary; so much so, that the part of his book which bears upon her persecutions is little more than a rhetorical exercise. It begins in prose; but concludes in an outburst of very indifferent poetry:

"Si natura neget facit indignatio versum."

Hearsay evidence, too, must have entered largely in the opinions he forms as to the relative merits of the Guernseymen and the Jerseymen; to the former of which he gives the preference; a preference, however, which rests more on their good fortune than their merits. They were more commercial, and, as such, wealthier and more conversant with foreign countries, more sociable and more generous. The Jerseymen, on the other hand, were poorer, and more exclusively addicted to the tillage of the soil; whence came a melancholy surliness, a destitution of humanity, and swarms of beggars, of which there were none in Guernsey. Whatever may be the difference of disposition at the present time, the influences, whether good or bad, of com-

merce and contact with the world at large are all on the side of Jersey.

The famous Prynne, too, in his way, described the castle in which he was confined; for one of the violent acts of Charles I. was to banish him to Jersey, and Burton to Guernsey. The following description is from his pen:—

Mont Orgueil castle is a lofty pile
Within the eastern part of Jersey isle,
Seated upon a rocke, full large and high,
Close by the sea-shore, next to Normandie,
Near to a sandy bay, where boats doe ride
Within a peere, safe from both wind and tide.
Three parts thereof the flowing seas surround,
The fourth (north-westwards) is firm rockie ground
A proud high mount it hath, a rampier long,
Foure gates, four posternes, bulwarks, sconces strong;
Fifteen cast pieces of artillery,
With sundry murdering chambers planted so,
As best may fence itself, and hurt a foe;
A guard of soldiers (strong enough til warre
Begins to thunder) in it lodged are,
Who watch and ward it duly night and day,
For which the king allows them monthly pay.
The Governor, if present, here doth lye,
If absent, his lieutenant deputy;
A man of warre the kays doth keep, and lock
The gates each night of this high towering rock.
The castle 's ample, airy, healthy, and
The prospect pleasant both by sea and land.
Two boystrous foes, sometimes assault with losse
The fortresse which their progresse seems to crosse.
The raging waves below, which ever dash
Themselves in pieces, whiles with it they clash, &c., &c.

It is only necessary to add, that, though the main current of the history of the Channel Islands points to France as the quarter from which danger was to be expected, it does not do so

wholly and exclusively. At an early period Spain was formidable, and as late as 1593, so wary a man as the Lord Keeper writes to the two Houses of Parliament that "the King of Spain, since he hath usurped upon the kingdom of Portugal, hath thereby grown mighty. . . . . He keepeth a navy armed to impeach all trade of merchandise from England to Gascoigne and Guienne. . . . . Yea, by means of his interest in St. Maloes, a port full of shipping for the war, he is a dangerous neighbour to the Queen's isles of Jersey and Guernsey, ancient possessions of this crown, and never conquered in the greatest wars with France."

In the times, however, now coming under notice, it is France which is exclusively to be guarded against.

[The view of Mont Orgueil Castle in the subjoined illustration represents its appearance at the present day. The castle is described in a previous page.]

MONT ORGUEIL CASTLE.

View taken from the sands in Grouville Bay, Jersey.

CHAPTER XVI.

LATER HISTORY CONTINUED—PERIOD OF THE CIVIL WAR.

During the earlier years of the reign of Charles I., and at the beginning of the civil war, there was no great difference between the political feeling of the Jerseymen and Guernseymen. As events, however, went on, a great change took place, ending in the development of an antagonism, which, happily ended, at the Restoration, in a common feeling of loyalty. The two islands took different sides; Jersey being loyalist, Guernsey republican—each remaining, however, thoroughly and inflexibly Protestant.

In Jersey, the influence of Sir George Carteret was inordinately great; great, though by no means unopposed. He was himself a Jersey man, and far from being the only one of his name. In a complaint against him, laid before the parliament in 1642, the very circumstance of his being an islander is made an objection. He was too much a pluralist himself, and he had too many kinsmen for whom he found places. He was overbearing in manners, and arbitrary in his execution of the laws. He was, nevertheless, strong enough to hold the king's party together; and in Jersey, this was a decided majority.

In Guernsey, Sir Philip Osborne was governor; but in Guernsey, the feeling beyond the walls of the castle, was republican. The chief details of the effective and successful opposition of the

island, are connected with the names of De Beauvoir, Carey and De Havilland.

Not only were the two governors in communication with one another, but, on the 2nd of February, 1642, the day of what may be called the Guernsey Rebellion, Carteret was in Castle Cornet, with the credit of having arrived from England with arms and ammunition to be employed against the islands, and of having the intention to proceed to France for the purpose of levying more. The meeting before which this information was laid was held at the house of Sir John Fautrart, the lieutenant-bailiff, with Peter de Beauvoir, and Thomas Carey, jurats, in attendance. To the presence of Carteret in the island, one of the constables gave evidence. The whole movement seems to have been eminently formal and legal. Upon the constable's deposition, the above-named jurats and Fautrart applied to the bailiff, John de Queteville, for advice; who merely replied that if he were ordered to arrest Sir G. Carteret he would do so. The two jurats then sent the sheriff to Sir P. Osborne to demand his guest, to which application no answer was vouchsafed. Further prevarication followed, until, by the 22nd of March, 1642, the Committee of Lords and Commons, appointed to watch over the safety of the kingdom, had invested the provisional government of the island in the hands of thirteen gentlemen, of whom De Beauvoir was president. Their instructions, *inter alia*, were as follow:—

"1.—You shall seize the person of Sir Peter Osborne, knight, deputy-governor of the island of Guernsey, and the castle now in his custody; and you shall send him under a safe escort to the parliament, to answer such offences, contempts, and other misdemeanours, as shall be objected against him.

"2.—You shall take into your custody, by inventory, all money, plate, and other goods belonging to the said Sir Peter Osborne, and keep the same till further directions be given by this committee, or by parliament.

"3.—You shall appoint a captain, or commander-in-chief, and other subordinate officers over all the trained bands of the said island, who shall lead, conduct, and exercise the soldiers, according to the discipline of war.

"4.—You shall, by force of arms, take possession of the said castle, and fight with, kill, and slay all who make any resistance to you in the execution of this commission, and shall keep the said castle to the use of the king and kingdom of England.

"5.—You shall oppose and suppress all forces which may arrive in the island, without authority and consent of both houses of parliament.

"6.—You shall assist all ships sent by authority of both houses of parliament for the defence of the said island, and guarding of the seas, and protection of his majesty's good subjects in those parts.

"7.—You shall seize upon the persons and estates of all such as stand in defence of the said Sir Peter Osborne, and all others that have made, or shall make, war against the parliament.

"8.—You shall seize upon all ships, barks, and all goods and provisions employed for the relief of the said castle or fort, being in actual war against the parliament, or the property of those who have in any manner aided or assisted those who were, or are, in such actual war.

"9.—You shall, from time to time, advise both houses of parliament, or this committee, of your proceedings, and execute such further instructions as you may receive from them.

"10.—You shall collect the rents and other profits belonging to the governor of the said island, and shall employ the same for the defence thereof, and other public charges.

"11.—You shall grant and dispose of all such licenses for transporting any commodities for the relief and supply of the island out of the kingdom of England, as by law are warranted, in such manner as shall stand with justice, and due respect to the good of the said island, and the inhabitants thereof."

Osborne, however, defied them, and threatened to turn his cannon on the town. Then the Commissioners wrote to the Parliament. Then Charles wrote to the Earl of Danby as if he had been actually governor. He was to promise the islanders that—

"In that island, that, as we ever have had most especial care to preserve the Protestant profession of the Christian religion with your ancient government among you, your liberties, persons, and properties, as settled by the laws and customs of your island, so shall we ever preserve them from all innovations or alterations whatsoever, whereby you may enjoy the blessings of tranquillity under us, as heretofore under our predecessors. But in case you find any particular person, (for we have had of late too much experience of those spirits) who shall cast off this, our just command, and authority, you, the bailiff and jurats, are to

apprehend and closely imprison such offenders, and proceed against them with expedition and severity, according to the laws; and upon any insurrection or other act of disloyalty, we require you, our governor and deputy, by your martial power, to subdue such persons as shall rise against our authority by any traitorous attempt; and we expect that both you, our governors, and you, our magistrates, will take such care, and give such mutual assistance to each other, as may preserve your peace and the loyalty of the island, which we have always and so much desired, knowing how much it imports that no advantage be given to the designs of foreigners by faction; of this we expect you will give us a speedy account, and for so doing, these, our letters, shall be to you, or any one of you, a sufficient warrant."*

The promise herein conveyed was put at what it was worth by the Guernseymen. Meanwhile, the parliamentary lieutenant-governor was Mr. Robert Russell, under the Earl of Warwick. The Parliament, however, did but little. When the spirit of the islanders waxed weak, it stimulated and upbraided them. Yet Osborne not only held out, but held as hostages three of the popular leaders. The following letter, on this point, tells part of its own story:—

To the Earl of Warwick.

"My Lord,—Our calamitous state (we having no hope of defence but under the wings of your protection) compels us to advise you that Castle Cornet has, within these last days, received supplies from France and England, a large shallop having come from France, and two ships from England, one of them commanded by Captain Bowden, who has revolted against the parliament. Captain Bowden arrived here from Dartmouth on Saturday last, the 22nd of this month, and anchored to the south of the castle, when he sent his boat on shore with letters addressed to the lieutenant-governor (Russell), and to the commissioners appointed by the parliament, requesting them to come on board his vessel to consult with him on matters of great importance, he feigning to be ill. Upon this invitation Peter De Beauvoir, James De Havilland, and Peter Carey, three of the said commissioners, went on board, when they were immediately seized and treated as prisoners. The other vessel went to Jersey on the same errand, but our lieut.-general sent timely notice to that island. This circumstance induces us, with the consent of Robert Russell, Esq., your lieutenant, to write to your lordship and inform you that this poor and feeble state has, at present, more need than ever of

* Dated from Oxford, 9th of December, 1643.

your aid and support; and we most humbly pray you, with all possible diligence, to send us some vessels, and all necessary ammunition, in such quantities as your prudence may think proper, to protect us against the invasion of our enemies. Signed, James Guille, Peter De Beauvoir, Michael De Saumarez, John Bonamy, Thomas Carey, John Carey."

The remainder is given in the details of the seizure of the three commissioners which, in a letter like the one before us, receives merely a short and cursory notice, and which even in a history of the islands taken generally can only claim a few lines of narrative. In a personal biography, it would expand into an account of no small interest. It is that of a foul capture, and a bold escape. The man who took them was an adventurer, to say the least. His name was Bowden. He left Guernsey with a parliamentary commission; was talked-over by Prince Maurice, whom, unless he meant to be talked-over, he had no occasion to meet. He, apparently, violated the spirit, if not the letter, of his instructions in doing so. However, he returned to Guernsey; kept up his show of parliamentary authority; inveigled them aboard his ship; took them to the governor. He was, probably, honestly surprised in finding that the governor like a cautious man, instead of allowing him to take them across to Dartmouth, insisted on their being left with him. There was bad water in the castle, few vacant rooms, and no great amount of fresh meat. To this we must attribute some real suffering on the side of the prisoners. Yet they were not separated, and wine and beer are specially mentioned as part of their allowances. Still they suffered; yet were emboldened rather than depressed. Any man who escapes from a prison must have energy, physical courage, and perseverance. To Thomas Carey, Peter de Beauvoir, and James de Havilland, full credit must be given for these high qualities. That they would have been hanged had they remained one half hour longer adds to the romance; but the evidence of this lies only in what some good authority, who had means of knowing, told some one else,

who had no interest in deceiving. These hairbreadth risks are common in most escapes; though not always real. Beyond doubt, however, the prisoners under notice had a hard time and made a bold and successful attempt.

They had been moved from a lower room, in which there was some cotton, to one above it. They cut through the floor down into the cotton vault, got the cotton, made ropes, let themselves down, were fired on, got off, and resumed their authority.

Such were the three "said commissioners," three men of courage and endurance; and with this notice of their personal adventures we leave Guernsey, with its royalist governor and parliamentarian population, for the sister island.

In 1643, Carteret, afterwards Sir George, was lieutenant-governor of Jersey. The earl of Warwick had nominated Lidcott, who had allowed himself to be persuaded that the real feeling of the island was parliamentarian, and that nothing was wanted but a leader. Before three months were over, he found out his mistake, and returned to England. Charles I. then issued a proclamation from Oxford, in which he offered a free pardon to all who should return to their allegiance, with five exceptions. On the 24th of October, Carteret took the oaths.

Soon after this the Prince of Wales, afterwards Charles II., joined the army of the West; retiring till he reached the Scilly Isles.

It was on Friday, the 17th of April, 1646, that the frigate which bore the Prince, the Black Eagle, commanded by Captain Baldwin Wake, cast anchor before Elizabeth Castle, quietly and silently, as became a vessel with an inauspicious freight. The Prince was on board. No salute was fired; no flag hung out. The royal ensign fluttered at the bowsprit of the royal vessel, and that was all. Yet the loyalty of the island, though silent, was steady and sincere. It was no sign of prosperity at head-quarters that Charles came to Jersey; and it was as a refugee, or, at least, as a prince under

stress of threatening circumstances, that he was received. A few hours after came the Doggerbank, of six, and a smaller vessel of four, guns; the former with the chief officers, the latter with the subordinate servants of the household. They had been favoured by the wind; and, except three small vessels from Guernsey by which they were overlooked, they saw nothing on the voyage to disturb them. Guernsey, however, was the quarter from which danger was more especially apprehended; and it was against the news of the prince's whereabouts reaching Guernsey that the first steps, after his landing, were taken. On the very night it took place warrants were sent to the constables of every parish, enjoining an embargo on every harbour and creek, every spot on the coast from which a boat might escape with the tidings. They oozed out, nevertheless, and that in a form which commanded the attention of the governor. He wrote to the Earl of Warwick that the prince had arrived in Jersey with six hundred men, and that this might be considered as a design against Guernsey. The number here given is about double the true one. Three hundred individuals, there or thereabouts, constituted the *cortege* of the Prince. This (as we have seen) increased (nominally) to six hundred on his way to Guernsey, and by the time it had reached Paris, to three thousand. Among the chief names of the prince's court are those of the Earls of Berkshire and Brandford; of the Lords Capel, Wentworth, and Hopton; of his Chancellor of the Exchequer, Sir Edward Hyde; Sir John Greville, Mr. T. Chiffinch (brother of the famous procurer William), laymen; and Drs. Creighton, Earles, Clay, and Byam, clergymen. The number, however, soon swoll; amongst the later arrivals that of Sir John Macklin being the most important. He was the first man whom the prince knighted; his service being that, as master of a merchant vessel of eight hundred tons, he had made a present of her to the royalists. She had twenty-eight pieces of ordnance and above £30,000 in goods.

It was at Elizabeth Castle that the Prince landed, and he found no reason to leave it during the whole of the stay in the island; though, on the day after the arrival, Mont Orgueil was inspected by Lord Hopton with the special object of determining whether it was a fit and secure residence. The retinue was disposed of differently. The extent to which the several members of it can be said to have been quartered or billeted on the islanders was as follows:—lodging was required for them *gratis;* and the right of pre-emption was allowed to the Prince's purveyor. This means, that the butchers and farmers were ordered to be present in the market-place at nine o'clock in the morning of the market-day, but that they were not to sell to any one, except the royal purveyor and the principal courtiers, until twelve. Add to this the fixation of a *maximum* tariff, *i.e.*, for the best mutton, three sous per pound; for lamb, three sous six deniers; for veal, two sous three deniers; for beef, two sous six deniers; for pullets, eight sous the couple.

Then came Sunday, of which the islanders made a holiday, with meetings and bonfires.

Monday gave the following proclamation:—

"*De la Cour de son Altesse Royale le Prince de Galles.*

"Ce dix neuvième jour d'Avril 1646, son Altesse le prince de Galles, etant à present en cette Isle de Jersey, fait savoir aux habitants d'icelles que s'il y a aucunes personnes à lui appartenantes, ou dépendantes de sa Cour, qui par injure ou mépris, ou autre voie que ce soit, fasse aucuns excés à aucun des habitants qu'ils aient à en rendre leurs plaintes et déclarations au Chevalier George de Carteret, Lieutenant Gouverneur pour sa Majesté en cette dite Isle, desquels delinquants son Altesse veut et entend en faire justice exemplaire, selon l'exigeance du fait.

"De part le Prince et son Conseil.

"Richard Fanshawe."

Nor was such an act uncalled for. During the late troubles, when many were seriously disaffected, and many more suspected, much moveable property of value, especially the jewels of the ladies, had been declared forfeit to the crown. That everything thus confiscated should be restored to its lawful owners, was now declared; and, by declaring it, Charles won golden opinions throughout the island, more especially with the female portion of it.

The week, in general, was given to levees and receptions, Friday, the 24th, being the great day. On this Sir George Carteret was made both Knight and Baronet.

On the 26th, being Sunday, the Prince, for the first time, left Elizabeth Castle, and set foot on the main island, in order to attend divine service at St. Helier's. Then, for the first time, he showed himself to the islanders at large, by whom he was enthusiastically welcomed. He was, at all times, as we may readily believe, sufficiently accessible; dining in public, or rather allowing himself to be seen at dinner: of which he made stately and ceremonious meal; served by his set officers of the household like full-blown monarchs at a genuine court.

Meanwhile, graver matters claimed the attention of his council, in which there were intrigues and divisions of all sorts: Lord Digby being the chief machinator. He had landed from Ireland with a company of three hundred Irish, distrusted by the islanders as foreigners, and not loved as Roman Catholics. The mission of their captain seems to have been to play the game of the Queen Mother, who strained every nerve to induce her son to quit Jersey for France. To this, Hyde was resolutely opposed; and a letter, dated May 20, gives us the reason of his opposition. In this, he points out to Lord Jersey the mischief which he expects will fall "on the king, queen, and prince, and consequently the crown and the cause, if this repair into France should be so speedy as is pressed, or before he be really compelled by some attempt of the rebels (and then it is not his own act),

or such pregnant advantages be presented to him, for his so doing, as may weigh down lesser considerations." He further says: "Sure no honest man in his wits can think fit that the prince should bury himself in this obscure island from action. I wish action were as ready for him as he is for it; but the question is only, whether it is more honourable to be without action in this island or in France. Let me speak a word now to you," he continues, "of the fruit and inconvenience of his residence here. He is within the king's own dominions, and in his own power, free from the least imputation or blemish that malice itself can suggest against him; and so in a much more honourable condition than he can be in the court of any foreign prince; and as he is assured of the affections, addresses, and assistance from England, so I conceive him more capable of the compassion and supplies of other princes, and allies, whilst he is here, than in France; and I am not able to tell myself why he might not more reasonably expect aid even from France, when he is here, than when he is at Paris. . . . The island itself is not to be attempted without a very great force, and, being lost, the prince's remove into France is most easy and most safe. And of this we have as great assurances as can be given,—the unanimous consent of all persons upon the place, who understand things of that nature."

Again—

"Oh! Mr. Secretary, I have not been well used since you and I parted, and truly I may, with modesty enough, say I have deserved to be more trusted than I have been; by the grace of God, nothing shall discourage me from doing my duty. We have been with strange importunity pressed, from the hour we came hither to come into France, my Lord Culpeper being converted in that point, contrary to what was formerly his opinion. But all the rest are resolved not to consent to it, but in case of danger; and then all men will sooner go thither than suffer the prince to be taken by the rebels; which we apprehend

so little, that we conceive we can defend the island from any force the Parliament can bring against it; and when that is lost, here are two castles impregnable, from whence we can go into France, though the whole navy be about us. My lords Capel and Culpeper are gone with the queen, to persuade her majesty to rest satisfied till we may send to the king, and receive his pleasure. After his majesty is sufficiently informed of all particulars, and the strength and constitution of this island, if anything be positively imposed upon us before that be done, you will hear that I have retired myself into a chamber in one of these castles, and study under Sir George Carteret, who truly is a very worthy person. For I will not be hurried by any command whatsoever into an action that I think will prove so pernicious to the king, queen, prince, and realm, as this unnecessary going of the prince into France in my judgment would do, except better reasons be given for it than I yet understand. We are all glad to hear of the king's safe arrival with the Scots, and of his honourable reception there."

However, the prince was decided upon going, and Hyde's narrative continues:—

"Tuesday morning, about six of the clock, we went again to the castle, and found the prince ready, and the wind fair; but the little vessel in which he was to go, was not come out of the road, by reason the seamen would not stir, declaring themselves that they would not carry the prince into France. Whereupon the prince desired Sir Geo. Cartwright to go himself thither, who quickly took order that the vessel came into the road. But by that time the wind was changed, so that the journey was respited till the next morning, being Wednesday; his highness commanding all persons to be aboard by four of the clock the next morning. That night the wind was so high, that no man durst put to sea, yet the impatience of the prince was so great that towards evening he would have put to sea for St. Maloes, or for any other part of France; but was by the seamen

dissuaded, there being a very slender wind, and that full against him, and the Channel reported to be full of Parliament ships and shallops, so that the journey was again put off till Thursday morning, when some boats in which the servants and attendants were, put to sea, his highness himself going aboard his frigate. But the wind was so full against him, that the boats having been a league at sea were driven back, and so the prince came again on shore, where he stayed till the afternoon. About five of the clock, the wind continuing still contrary, he resolved to try his fortune, and suddenly put all his company aboard, and himself went into his shalley, resolving to row over; but, within half an hour after he was at sea the wind came fair, and blew a pretty gale, so that he went into the bigger vessel, and by eleven of the clock at night, reached the French shore, and lay at anchor till day break, and then he landed with all his retinue.

"From Tuesday morning that he first intended to go, he stayed with great impatience, and would never suffer any of his attendants or train to go out of the castle, lest they might be absent in that article of time when the wind should serve, which he resolved to lay hold of. So that nobody went to bed from that time, till they came into France, and eat only such meat as my lady Cartwright could suddenly provide. The lords Capell and Hopton, and the chancellor of the Exchequer went once a day from the town to kiss his hands, after they had first taken their leave of him; and stayed very little time, there growing every day a visible strangeness between them and the rest, insomuch that they had little speech together, and the last day none; the other lords sitting upon the bowling-green with the prince, who quickly left them, and they returned."

The last three months of the year 1651, are the important times for the histories of both Guernsey and Jersey. Then it was that events moved rapidly, and that changes were not only sudden but great. The battle of Worcester was fought in the

beginning of September; and, by the end of December, the last remnants of the royal party were reduced.

Out of these three months, six weeks and two days are, on the strength of the current report and belief, given to the siege of Elizabeth Castle, the only fortress which held out with any notable obstinacy. On the same day that Charles II. made good his escape from the field of Worcester, and set foot on the soil of France, did the forces of the Parliament, under Blake, land in Jersey. The first division of the fleet anchored in St. Ouen's Bay, favored by wind and weather, not always, on other occasions, propitious. Concurrently with the news of their anchorage a report diffused itself to the effect that the king had been made a prisoner; so that the energy and influence of Sir G. Carteret were taxed to the utmost. He succeeded, however, in sustaining both the courage and the loyalty of his partizans.

After four hours combat between the crews of the parliamentary ships and the garrison and militia men of the island, the whole fleet drew off to St. Brelade's Bay, where it was watched by the main body of the land forces. Meanwhile, it sent back a squadron to St. Ouen's, and others towards St. Aubin's Bay, St. Clement and Grouville, as if with the intention of landing in several places at once. If all this, as appears to have been the case, were done with the special object of harassing the enemy by repeated diversions, the object of the invaders was fully effected; for the evidence to the distress and fatigue of the troops, more especially the local ones, is express. The commissariat, if so it may be called, was wholly insufficient. In respect to the train bands, "though generally good firemen, never having been used to be from home, did an enemy attempt us, and hover round the island, as for some days they might in fair weather and summer time, the people would be at a great loss for necessaries to subsist, and experience how to dispose of themselves. Upon which account, notwithstanding all the care of Sir George De

Carteret at the invasion of the usurper's forces in 1651, most of the train bands forsook him on the night of St. Ouen's Bay, before the enemy landed."

This night of St. Ouen's Bay was the one now under notice, "the fatal night," as Falle, in his extreme loyalty, calls it, "which proved extraordinarily dark; and, under favor of which, the enemies landed a battalion, which, as soon as discovered, was, with great bravery and resolution, charged by the governor and the horse he had with him. The charge was bloody and desperate, many of the enemies being killed and wounded; but others poured on so fast that the infantry, dispersed along the coast for refreshment, had not time to come in and sustain the horse, which certainly did wonders by the confession of the enemies themselves, who have often said that they could not have stood such another charge." Opposition, however, ceased; and the forces were landed; and, before many days were over, the Fort St. Aubin yielded at almost the first summons. As little resistance was offered by Mont Orgueil. The parliamentarians landed on the 23rd, and the capitulation was signed on the 27th. The real, and, indeed, the only resistance was in Elizabeth Castle. It was, at first, cannonaded from St. Helier's Hill. The garrison consisted of three hundred and forty men, with provisions for eight months. The chief persons of the island had betaken themselves thither; and the news of the king's escape and safe landing in France had reached the governor. The spirits of every one in the castle were raised; and the cannonade from St. Helier's Hill was doing but little mischief. More, however, was destined to be done by one of two huge mortars, which threw a shell upon the site of the old church of the Abbey of St. Helier, (now a part of the castle), and then the floor of a magazine. The bomb broke through into vaults, and a terrible explosion of twelve barrels of gunpowder was the result. Forty soldiers of the garrison were killed, along with several armourers and workmen.

Communication with the king in France seems, for some reason or other, to have been practicable during the six weeks of the siege. When Carteret first heard of his escape, he sent a message of congratulation, and now, after the blowing-up of the magazine, he sent another. Charles's answer was fair, honest, and considerate. His solicitations at the court of Louis XIV. had "been in vain, and would still be so, though repeated never so often, such a conjunction there was of counsels and interests between Cromwell and the prime minister, Cardinal Mazarin. He could not deceive him with a promise of succour, which he was in no condition himself to give, nor could obtain from others; that he relied on his known ability and experience to do what to him should seem most proper; yet advised him rather to accept of a reasonable composition whilst it might be had than, by too obstinate a defence, bring so many loyal gentlemen, with himself, into danger of being made prisoners of war."

Whatever may have been the feeling of the island towards the cause of the king, and however much certain details in the conduct of Sir Peter Osborne may be open to grave exceptions, the evidence of even his enemies speaks favorably to his courage and capacity in the defence of Castle Cornet. Nor was it denied by Cromwell himself, who, either from inclination or policy, granted favourable terms to the royalist commanders in each island. The same day saw the capitulation of Castle Cornet and the evacuation of Elizabeth Castle; and the terms of the surrender were, in either case, honourable to all parties.

The eighth clause in the article of capitulation for Jersey runs thus:—

"That Sir George Carteret, with all his military and naval officers, either in active service or invalids, together with the private soldiers and gentlemen leaving the above-named castle, shall march out, with their horses and arms of all sorts, to some convenient place within the island, colours flying, drums beating, and all the honours of war, and shall there surrender them to those whom General Haines may appoint for that purpose, with the exception of swords for the privates, and

of horses, swords, and cuirasses, and pistols for the officers, and that, in general, all the above-mentioned shall keep their accoutrements of all sorts, with their papers and account books, without being plundered or searched for what they may carry with them."

Mutatis mutandis, or with the name of Colonel Roger Burgess instead of that of Sir Peter Osborne, whom he had succeeded, the second clause in the Guernsey article runs to the same effect. Full indemnity and pardon were granted to all concerned in the defence, from the commanding officer to the lowest private; and in each article is a special clause to the effect—

"That if it should happen that any officer or private comprized in these articles should violate them in whole or in part, such violation shall not be imputed to his party, but only to the person guilty."

The sufferings, however, and privations in each island had been great; and from Guernsey, where the decided support of the Parliament had established a claim for some favor and indulgence, we have an elaborate address to the Protector, which gives us a good account of the condition of the island. The land was subject to both tithe and champart,—the latter being a payment of every twelfth sheaf of corn: a portion of which was paid to the State and a portion to individuals. The State's claim amounted to ninety-one pounds; the claims of individuals to one hundred and seventy livres, ten sous tournois. The inhabitants amounted to eight thousand, of which nineteen-twentieths are described as having no substance at all; some two or three as having two hundred pounds *per annum;* and less than ten as being worth one hundred pounds *per annum.* Two-thirds of the land was out of cultivation; partly on account of the poverty of the islanders, partly on account of the heavy dues; of which the above-mentioned tithe and champart, though the chief, were not the only ones.

"Since the year 1642, a mass of evils, like a flood, have overflowed the island, and all that was left good in the condition thereof. The inhabitants, for declaring

themselves in favour of the parliament, and remaining faithful to it, have lost their ships, their traffic, and their trading; their harbour and port have been closed and shut up by the rebellion and revolt of Sir Peter Osborne, in the castle called Cornet. The inhabitants, during the heat and danger of war, were in continual fears, services, and watchings, commonly twice a week, sometimes thrice; they had frequent alarms from Jersey, from Castle Cornet, from Normandy, from Britany, and from the king's ships; they were always in arms, as in a garrison, a frontier place remote from England; they constructed fortifications and several other works for their defence, and were at their own charges for reducing and keeping Sark. They have paid for the maintenance of frigates to prevent relief being given to the castle, for beds, candles, fire for the soldiers, and divers other disbursements amounting to above thirty thousand pounds. But what grieved the island most, being an evil undeserved, was the filling it with soldiers, though for seven years before, by the mercy of God, and the faithful endeavours of some active inhabitants, they had preserved themselves and the island in obedience to parliament; and when the king was put to death, and his party and interests were brought low in England, there was no reason to fear for the inhabitants, who were then kept under like slaves, affronted, threatened, beaten; their orchards were robbed, their trees cut down, and their sheep stolen. The parliament promised that the soldiers should be no charge to the inhabitants, yet they took no notice that the island was almost undone and could not bear the burden. In England, soldiers pay for their bedding, fire, and candle, or else are quartered at inns and alehouses; but the soldiers extorted this entertainment from us. In this particular the island has paid, in five years, above seven thousand two hundred pounds.

"The humble desire thereupon is, that there may be some charitable and just relief, since the inhabitants are members of the commonwealth, as well as others in the great parts thereof. That the unreasonable payment of the aforesaid thirteenth be no longer paid, but remitted. That camparts, likewise, (at least those belonging to the state, amounting to about ninety-one pounds sterling per annum) be remitted and abolished. It is a small thing for the state to grant, and is of great consequence to the welfare of the island, in reference to breaking up and ploughing the land. The state will be no losers thereby, for when the people are encouraged, they will be enabled to defend the island by their own means, having provisions within themselves. And, if this exaction, nowhere practised but in Guernsey, be remitted and abolished, tithes will increase, as more land will be brought into culture when this discouragement ceases. This is the burden of which they at all times complained to Queen Elizabeth, and to the last two kings and to parliament, and of which they have been promised redress by the council of their several majesties. And this promise was one of the strongest inducements to continue them firm in their duty under their incomparable evils during the civil war; to wit, that the campart should be abolished."

Then follows a notice of the remedial measures enacted by Parliament in 1643, when the management of the insular affairs was committed to twelve men of the island itself; and, then, a protestation of their long-tried and ever-recognised loyalty to the English Crown.

A slight suspicion of self-laudation now suggests itself to the English reader: and the old, old story, which may be read in the very latest local histories of what Guernsey did for Jersey, and how she relieved her sister in distress, protrudes itself.

"The strong castle of Mont Orgueil, in Jersey, was taken by the French. Guernseymen recovered it. The island of Sark was twice lost. Guernseymen recovered it."

Castle Cornet is, then, considered not only as expensive, but as useless. Against the French, it is an insufficient protection; and, against the loyal islanders, it will never be needed; nor could it do much good if it were. Considering what happened during its occupation by the loyalist governors, it was not likely to find much favour in the eyes of the republicans.

To Richard Cromwell the following address was sent:—

"To his most serene highness, Richard, lord protector of England, Scotland, and Ireland, and of the dominions which belong to it; the humble petition of the bailiff, justices, town-council, and others, well-affectioned inhabitants of the island of Guernsey.

"In all humility representing that; having deeply shared the general consternation all well-affectioned persons experienced on the death of his late most renowned highness, they have also participated in the great exultation which possesses the hearts of all those who profess piety, and see your highness act in your government for God and his people. And as your humble petitioners hold nothing more precious than their fidelity to your highness, so they consider nothing so certain as the grace and bounty of your highness, which has emboldened them to prostrate themselves in all humility before your highness, most humbly supplicating that you will be pleased to confirm their privileges, franchises, and immunities which they enjoy by virtue of ancient charters; and, considering that the population of this island has so much increased, that more than six thousand persons earn their living

by making worsted stockings and other articles in wool, and that one thousand todds of wool are the least quantity necessary to keep them at work, which quantity being equally divided among the number of persons mentioned, only gives four pounds and a-half to each individual in a year; we humbly pray your highness that you may be pleased, out of your favour, to grant to the poor inhabitants of your said isle, the same indulgence and grace already bestowed on the inhabitants of Jersey, by the very noble father of your highness, of happy memory, for the sake of the cordial affection they bear to your highness. And according to their duty, they will pray God to continue his benediction on the person, posterity, and government of your highness."

CORNET CASTLE, GUERNSEY.
As it stood in the time of Charles II.
(From an old print.)

To Charles II., immediately on his succession, an address, in which there is a conspicuous absence of the spirit which had been so lately displayed. But this was, to a great extent, the case with the whole English nation. The following passages, however, can scarcely be read with pleasure by any one:—

"At the court of Whitehall, the 18th of August, 1660; present, the king's most excellent majesty in council.

"Upon reading the petition of Amias Andros, of Saumarez, bailiff of the island

of Guernsey, and Nathaniel Darell, both of them his majesty's servants, and deputies of the island of Guernsey, on behalf of the inhabitants of the said island, humbly acknowledging their great guilt and unfeigned grief of heart, for having, since the disorders these many years past, submitted to the usurping powers (which at last tyrannized over his majesty's subjects,) and quitted their duties of obedience to their native sovereign, for which great crimes, imploring his majesty's gracious pardon; it is ordered by this board (his majesty being present) that Mr. Attorney-General do forthwith draw up, in due manner, a full and effectual pardon for all the inhabitants of the said island of Guernsey; the said pardon to proceed in the accustomed manner to pass the great seal of England, so to remain as a monument of his majesty's most royal clemency to all in the said pardon. That Sir Henry Devic, knight and baronet, Mr. Amias Andros, of Saumarez, bailiff of the said island, Edmond Andros, son of the said Amias, Charles Andros, brother of the said Amias, and Nathaniel Darell, have, to their great honour, during the late rebellion, continued inviolably faithful to his majesty, and consequently have no need to be included in this general pardon."

Again;—

"Your majesty's most gracious letters, brought unto us by Colonel Jonathan Atkyns, your majesty's commissioner in this, your poor island of Guernsey, have so revived the drooping and dejected spirits of the magistrates and people in it, and have had such an influence upon the hearts and hands of all of them, that we could wish your majesty were informed of the fruits of your own labours, and with what joy, what alacrity we received them,—what blessings, what acclamations of joy and gratitude there were expressed in all places after the reading of them, for your majesty's long life and prosperous reign, with blessings upon all your majesty's undertakings, certainly great. As condemned persons, unexpectedly hearing that joyful acclamation of pardon and liberty, cast off all remembrance of past miseries; so this jurisdiction, your majesty's most humble and faithful subjects and servants, with the rest of the inhabitants, hearing and seeing beyond expectation those gracious promises of encouragement under your majesty's own hand, and seconded from your own mouth by that worthy gentleman whom your majesty has been pleased to entrust with the government of this island, as also the assurance we had before of it by that worthy gentleman, Captain Sheldon, your majesty's deputy-governor, all this has wrought such a change in us all, when we reflect on our past conduct, that we can never sufficiently admire and acknowledge your majesty's incomparable goodness and mercy towards us, for which we bless God and your majesty, devoting ourselves, our services, the remainder of our poor estates, and all that is near and dear to us for the advancement of your majesty's service in general, or for the defence of this poor island, part of the remains of

your ancient duchy of Normandy which (with God's blessing, and under the conduct of those gallant gentlemen your majesty has been pleased lately to send to command over us) we will defend and secure against all attempts whatsoever; so prostrating ourselves at your majesty's feet with all humility, we subscribe ourselves, &c., &c."

In fact, it is clear that, during the whole decennium, internal faction ran high in Guernsey; and that, when we turn our attention from the nobler transactions between the two primary parties to the details of individual biography, we find both intestine dissension and constitutional disturbance.

In the Restoration, we get a decided historical landmark: for the reign of Charles II. was marked by no events of importance. As in Great Britain in general, the material interests of the country flourished: and, though Jersey had more especially favoured the royal cause, and, on two occasions, served as a refuge to the king, Guernsey, where his cause had been opposed, met with equal favour. The explanation of the decided difference of political feeling, as shown by the two islands, is impossible for an English, and difficult for a native, historian. Probably, if, at the beginning of the civil war, the votes of the two islands could have been polled, there was much greater equality than was shown by the events of the subsequent history. That there was a party in Jersey hostile to Sir George Carteret at least is shown by the complaint against him; a complaint laid before the London, not before the Oxford, parliament. That there was a royalist party in Guernsey is shown in more than one narrative.

The personal influence of individuals seems, to an unbiassed looker-on, to have had much to do with the turn matters took. Sir George Carteret was a Jerseyman, and one of a powerful Jersey family. The parliamentarian feeling of the Guernseymen seems to have been determined by the Carys, De Beauvoirs, and similar influential families. Deeper reasons than this may easily be; but they are not very visible ones.

A second visit of Charles to Jersey has been alluded to. It took place two years after the first. The details of it are more obscure than those of the first; and they were less important. That that island deserved well of the king, and his party, is beyond doubt. There were few other places where he could have been equally safe. In Holland he would have been under the watchful eye of the prince of Orange: in France, there is more than sufficient evidence to show that Mazarin, at least, was capable of intriguing with the parliament.

During the short reign of James II., little that affected any of the islands took place. That the will on the part of the king to make proselytes to his own religion, under the plea of toleration, was by no means wanting, is clear. The governors were Roman Catholics, and the majority of the soldiers the same. Mass was performed. The organization of the troops was improved. What might have happened had the reign been prolonged is a matter of speculation. As soon as it was heard that the Prince of Orange had landed at Torbay, the authorities acted with laudable promptitude, and anticipated anything that might have been expected from the partizans of James. With the accession, however, of William III., a new division in the history of the islands begins.

A rough measure of their industry is got from a grant made by James of wool for the manufacture of stockings. To Jersey, four thousand; to Guernsey, two thousand; to Alderney, four hundred; and to Sark, two hundred tods of wool a year were allowed. They were to be shipped from Southampton. The difference between the two allowances suggests the difference, in respect to one manufacture at least, between Jersey and Guernsey.

CHAPTER XVII.

MODERN HISTORY—FROM THE ACCESSION OF WILLIAM III. TO THE PRESENT TIME.

The first four years of the reign of William III. were years of anxiety and watchfulness to the islanders rather than danger or distress. There was in every island a Jacobite minority, though a small one. There was the notion afloat that, for French support, the first price that would be asked would be cession of the islands. More than this, the French navy was never in a more effective state than at this time; and one of the ablest of the French admirals, Tourville, was in command of it. On the side of England, there was only Torrington, eminent for his incompetence, to oppose him. The result was the French victory off Beachy Head, and the peril to the very soil of England that followed it. The great victory, however, of La Hogue, in the following year, brought security, and with it went out the last sparks of Jacobitism.

The great event of William's reign, so far as the islands are concerned, belongs to commercial rather than to political history, —the abolition of the privilege of neutrality. When it began

has already been stated. The following charter shows what it was under Henry VI. :—

"Henry, by the grace of God, king of England and France, and lord of Ireland; to all those to whom these presents shall come, greeting. We have seen the letters patent of the lord Richard, late king of England, the second after the Conquest, made in these words:—Richard, by the grace of God, king of England and France, and lord of Ireland, to all those to whom these letters shall come, greeting: know ye, that we, considering the good behaviour and fidelity which we have found from day to day in our liege and faithful nations and communities of our islands of Guernsey, Jersey, Sark, and Alderney, have, of our special grace, for ourselves and heirs, as far as in us lies, granted to the said nations and communities that they, and their successors, shall for ever be free and acquitted in all our cities, boroughs, markets, and trading towns, fairs, mart towns, and other places and harbours, within our kingdom of England, from all sorts of tolls, exactions, and customs, in the same manner as our faithful and liege are in our kingdom aforesaid; provided, however, that our said nations and communities, and their heirs aforesaid, shall well and faithfully behave themselves towards us, and our heirs aforesaid, for ever."

The following is what it was under Elizabeth:—

"And whereas some other privileges, immunities, liberties, and franchises were graciously given, granted, and confirmed from time immemorial by our progenitors and predecessors, formerly kings of England and dukes of Normandy, and others, to the said islanders, and which have been used and observed constantly in the said islands and other maritime places; one whereof is, that in *time of war* the merchants of all nations, whether aliens, friends, or enemies, could and might freely, lawfully, and without danger or punishment, frequent the said islands and maritime places with their ships, merchandise, and goods, as well to avoid storms as there to conclude or finish their lawful business, come to, resort unto, go to and fro, and frequent the same, and there exercise their free commerce, trade, and traffic, and afterwards securely, and without danger, remain there and depart away from thence, and return unto the same, when they think fit, without any harm, molestation or hostility whatsoever to their goods, merchandizes, or persons; and this not only within the said islands and maritime places, and all around the same, but likewise at such places and distances from the island *as the sight of man goes to, or the eye of man reaches;* we, by virtue of our royal authority, do for ourselves, our heirs, and successors, renew, reiterate, confirm, and graciously grant the same immunities, impunities, liberties, and privileges just now mentioned to the said bailiff, jurats, merchants and others, whether they are in *war or amity*

with us; and to all other inhabitants, aliens, or sojourners aforesaid in the said island, in as ample form and manner as heretofore they have used and enjoyed the same. In order, therefore, to prevent any violation or infraction of this, our grant, concession, and confirmation, or any thing therein contained in any matter whatsoever, we declare and give this warning, by these presents, to all our officers and subjects, which warning we order to be published in all parts of our kingdom of England, and throughout our realms and dominions under our obedience, wheresoever they lie or are situated: that if any of our said officers or subjects shall be so rash as to presume to transgress these, our strict orders and commands, we order and decree (as far as in us lies) that he shall be severely punished for his audacious contempt of our royal power and disobedience to our laws, and be compelled to make full restitution and satisfaction of all costs, interests, and damages, and be prosecuted by all due process and forms of law for the same."

William's ordinance was as follows:—

"At the court of Hampton, the 8th of August, 1689; the king, prince George of Denmark, &c. Whereas, on the 30th of May last, his majesty in council was pleased to order that their majesties' proclamation, bearing date the 14th of the same month, for prohibiting the importation of any commodities of the growth or manufacture of France, should be forthwith sent to the bailiff and jurats of the islands of Jersey and Guernsey, who were thereby required to cause the said proclamation, then sent unto them, to be published, and strictly observed and put into execution. His majesty in council is this day pleased to declare that (being at this time strictly obliged in his treaties with his allies and confederates to prohibit in all his dominions all trade and commerce whatsoever with France) he does not think it fit or expedient to dispense with the execution of this said order in this present and extraordinary juncture of time; yet, it is not the intention of his majesty in any manner whatsoever to revoke or infringe upon any privileges that may have been granted by his royal predecessors to the inhabitants of the said island of Guernsey."

It was borne patiently, as well, indeed, it might be; for when the privilege of neutrality ended, the chance of privateering began. In the smooth and easy days of Queen Anne and the first two Georges, when, except for a short interval, there was nothing to fear from France, the main details of this important transition were brought about.

During the first American war, there were two abortive attempts on Jersey, or rather one under the command of an ad-

venturer, who called himself the Prince of Nassau, in 1779, and another in 1781, under the Baron de Rullecourt; the latter being the more important one. Steered through the difficult channel of La Rocque Platte by a traitorous pilot, the troops landed, by night, in Grouville Bay, and, by the dawn, had marched into the market-place of St. Helier's, surprised the guard, taken possession of the lieutenant-governor, and extorted from him his signature of a surrender—which the spirit and courage of the other officers justly condemned as invalid. However, the lieutenant-governor was a prisoner, and most unscrupulous use was made of his position. He was prevailed upon to address an order to the royal troops, confining them to their barracks; and was placed in front of the French troops as they marched against Elizabeth Castle, which was summoned, under the terms of the so-called capitulation, to surrender.

Reckless and wicked as all this was, it was useless also. On the first alarm, Captains Aylward and Mulcaster had escaped into the castle—and they held it. Meanwhile the regiments of the line and the insular militia had come up. They made short work of the capitulation. To Rullecourt's demand, that they should comply with its terms, the answer was, that unless within twenty minutes they laid down their arms and surrendered themselves as prisoners of war, they would be attacked. Major Pierson, of the 95th, who sent this soldier-like answer, kept his word and effected his purpose. Driven up into the market-place the French had no alternative but a surrender. Rullecourt himself was killed in the action.

Ὡς ἀπόλοιτο καὶ ἄλλος ὁ τις τοιαῦτα γε ῥέζει.

His conduct was as unscrupulous as that of Major Pierson, whose death forms the subject of one of Copley's best paintings, was gallant. Not satisfied with the cowardly exposure of the lieutenant-governor during the advance of his troops, he, when circumvented in the market-place, seized him by the arm, and

did his best to make him share his own well-deserved fate. This was deferred just long enough to tell him that his scheme had miscarried. The antipodes to Wolfe and Epaminondas, Rullecourt died in the arms of defeat.

In the commercial history of the islands, 1767 is an important year; in Guernsey most especially. There had been smuggling to some extent both there and in Jersey; but, in Guernsey, it had gone furthest. The whole tenor of the subsequent legislation, or rather of the opposition it experienced, shows this; for whilst the acts of the British parliament were opposed with extreme energy in Guernsey, the Jerseymen simply co-operated with them, as in duty bound, and as a sister island. Indeed, the Guernseymen, in their appeal to them for a joint action, admitted as much. They admitted, in a letter addressed to the lieutenant-governor, that although "the losses, inconveniences, and distresses attendant on the plan proposed would be more severely felt in Guernsey than in Jersey, yet the permanent interests of the two islands in the agitation of the question are precisely the same," and so on. Still, as far as the recognition of the community of interest, and a moderate protest went, the Jerseymen acted as they were required. This, however, is an anticipation.

In 1709, in 1717, in 1720, and in 1722, attempts had been made to introduce an English custom-house in Guernsey; but the States withheld their consent; obstructed; sent deputies to oppose it. In 1767, a registrar's office was established.

The suppression of smuggling is one thing; the suppression of it, in consonance with the constitutional privileges and immunities of the island, another; and it was an easy matter for the imperial government to attempt a good thing in an exceptionable way. As far as the constitution was concerned, the question, as compared with the high-handed policy of William III., who, on the strength of the conditions between himself and his allies, abolished their long-continued and jealously-guarded neutrality,

was a slight one. The States, however, petitioned Parliament against the registration of the order and petitioned in vain. They were ordered to register; they were ordered to administer the oath which the commissioner, who gave effect to the order, had to take. A fourteen-gun schooner, a four-gun cutter, some boats, and forty men constituted the authority by which the new custom-house or registry regulations were enforced. They had full, perhaps, excessive powers of search; and they were protected in the official capacity to an extent which reminds us of Berlin rather than of London.

They failed, however, in their mission; or, rather, they succeeded in the wrong way. What the islands lost, France gained. It was in 1767 that Major (this was the name of the commissioner) was sent over with his coastguard; and, in 1769, the beggarly little town of Roscoff, on the coast of Britany, was raised to the dignity of a free port. It became a free port, and throve through its freedom. That it afterwards fell off, and that Guernsey revived, is true; but it is also true that the ordinances of 1767 came to nothing.

During the American war, Guernsey combined smuggling and privateering, and prospered. During the French war, it combined them in a greater degree, and prospered still more. The law of 1767 had become a dead letter. Still, the year is a notable one; the most notable one, in respect to the commercial history of the islands, of the century.

In 1800, the imperial government was more in earnest. With a special reference to the order in council of 1767, it determined to act upon the principles contained in it, and to enforce them by the addition of more stringent regulations. There was the original order, and there was the supplement. The power of the officers to search and seize, which was before limited to the port and harbour, was extended to all bays, creeks, and roads, &c.; indeed, to any point within one hundred leagues of the coast of Great Britain. Besides this, the official immunities

of the officers were increased. The single security and the unsupported evidence of the officer were to suffice; and no action was to be brought against him for anything done in discharge of his duty unless notified in writing, and after the lapse of a month. Meanwhile, he was free to seize and carry before a magistrate any one who interfered with him. Upon this infringement on their personal liberty the islanders specially and fairly complained. These, along with other restrictions of the same overstrict and vexatious character, were (so to say) tendered to the islanders rather than inflicted on them. A letter from Mr. Stiles, the British commissioner to Mr. Le Marchant, at that time bailiff, is extremely courteous (A.D. 1800); praising, as it does, the loyalty of the islanders, and suggesting "that part of the measures under consideration being adopted, others could be proposed which might be beneficial to the trade of the island, and advantageous to the inhabitants, without being injurious, in any material degree, to the revenue of Great Britain," though what these were is not stated. A copy of the new orders accompanied this very polite letter.

The reply of the merchants was a counter-address to the bailiff and jurats, expressive of the strongest disapprobation and alarm, and asking, not unreasonably, for time to accommodate themselves to the threatened change of circumstances. "Should the plan be finally resolved upon, they further pray that it may be carried into effect with all the indulgence that is due to so many unfortunate persons; that sufficient time may be allowed them to prepare for this change in their situation, and find means to support their existence."

Joint action, too, on the part of Jersey was invited; the joint action already alluded to. But the Jersey people gave moral assurances that the illicit trade should be put down, and proposed a friendly conference with the commissioner to "consider the best means of reconciling the views of the government with the conservation of the laws, franchises, and

privileges of the island." That the conduct of Jersey was the more dignified is as clear as it is clear that her stake was less.

Soon after this, Guernsey became the scene of a mutiny—an Irish one. The Irish, always good on the field of battle but never model men in the barrack-yard, were quartered at Fort George, five hundred in number. During the winter, they had behaved quietly; but, in the early spring, they were joined by some braggarts of the 83rd Regiment from Portsmouth. On the eighteenth, they insisted that, as peace was restored, they should be free to do as they chose; that the gates of the garrison should no longer be closed at regular hours; and that they should rove over the island as it seemed good to them. In this act of insubordination the officers concurred. The governor complied. On the twenty-first the officers were at dinner when they were surprised by the whizz of bullets. Soon after, they found that the foremost mutineers had got up into the rooms above, from which they fired down on them. The 18th Regiment was also in the town, and its discipline and conduct were unduly suspected. To a man, however, they turned out against the mutineers, and, supported by the militia, prepared to quell the outbreak. The island officers gave order for each regiment to defend its own district, and to be ready, when called, to join the main body. Under Major Manby, the regulars, and under Colonel Lefebvre, the militia, with four pieces of artillery and two howitzers, commanded the front of the rebels with four companies on the side, and four more in reserve. A summons; a parley; no surrender; shots; messages; an address from the governor; a volley opened upon him; an advance of the artillery and of the companies at the side and in reserve. The mutineers then quitted the fort, piled arms, and returned to their duties.

As a stimulus or excitant, the French revolution was, in the Channel Islands, a mere *brutum fulmen*, or rather it was something more than this. It was an influence in the other direc-

tion. Nowhither did the refugees betake themselves earlier, and nowhere was more kindness and hospitality shown to them.

Equally honourable on the other side of the question was the self-denying ordinance to which the islands submitted themselves when Prussia and Austria declared war against the republic. It was suspected that the islands would fit out privateers. The answer to this was a circular to the merchants of the chief French ports, denying the intention. Honourably given, it was honourably received. It was delivered by Mr. Dobree; and as a sign of the extent to which certain names are common to the islands and the continent, the courteous and liberal acknowledgment of it is signed by a Dobree also.

When England, however, became a party to the war, matters changed. There was no want of privateers then.

The last thirty years of the seventeenth century gives us the dates of the introduction or development of several forms of dissent now prevalent in the islands, especially in Guernsey. It is so difficult to prove a negative, and so unsafe to rely implicitly on all statements which convey one, that the assertion of Dicey, who wrote in 1750, that there was no dissent in his time, must be merely taken to mean that there was not enough of it to be prominent. The ecclesiastical ferment under James I., with its decided manifestations of a puritan spirit, the republican feeling shown by a minority in Jersey, and by a majority in the sister island, can scarcely be supposed to have passed away with the events out of which they arose, and on which they re-acted, without leaving traces of some sort. Still the assertion of Dicey must stand as the representation of the general religious feeling of the islands. It was on the eve, however, of a change. At the present time, the Wesleyan Methodists are the predominant denomination; then the Independents; then the Wesleyans of the New Connexion; then the Primitive Methodists. In smaller numbers, the Quakers, the Bible Christians, the Baptists, the Bethelites, the Roman Catholics, and the Unita-

rians follow; amounting in all to more than a third of the population. The relative numbers suggest the history of these denominations; and the predominance of the Wesleyans points to the time of Wesley himself: indeed, to his personal exertions, for he visited the island.

The oldest sect, however, is that of the Quakers, whose first settlement connects itself with the name of Claude Gray. A native of Essex, and a Roman Catholic, he changed his creed in Jersey, and was banished for doing so. He returned, and was imprisoned, but the sentence was reversed by the king in council, and he returned to Jersey. After travelling for some time as a preacher, he established himself, in 1782, in Guernsey.

About the same time, Methodism took root. Some soldiers at Jersey, had heard preachers at Southampton and Winchester. They were, themselves, Baptists, but willing to receive a Wesleyan minister. Mr. Brackenbury, at whose house Wesley was staying when the application was made, undertook the service, and Mr. Kilham accompanied him. At first, they were fairly received; but, in Jersey, the mob attacked them, and Wesley was nearly drowned.

A Guernsey mob, too, a few years afterwards, attacked Dr. Adam Clarke. But such, all over Great Britain, was the common conduct of many who, afterwards, became the most energetic promulgators of the doctrine they had formerly opposed. It was in 1787 that Wesley visited the islands. Since then, the chief *gravamina* have been the compulsory enrolment in the militia, and the drilling on Sundays; the latter a practice against which only a small minority of the clergymen of the established church at first protested. The division between the old and the new connexion took place in 1836.

As early as 1796, the English Independents had a chapel in Guernsey. That of the French Independents was opened in 1817.

The Roman Catholics, as a general rule, are of French origin —Frenchmen of the emigration. When the decree was passed

by the National Convention, in 1793, against the French clergy, the Abbé Coulon opened a chapel in the Bordage.

The Baptist denomination, like the Independent, falls into a French and an English division; the former with three chapels, the latter with one.

Under George III. the islands of Herm, Jethou, Lihou, and the pond of the *Grande Mare* were leased out to individuals on rents, locally but improperly called free farm rents, the fee simple still remaining in the crown.

Of Sark, the history is a short one; though it would, probably, be longer if we knew the earlier details of it. These would consist in small, but not uninstructive, events in the personal history of a few anchorites; for the first authentic notice which we have of the island is that it contained a chapel and a small religious establishment, occupying a house still called the *Moinerie*.

In the time of King John there is reason to believe that it was in the possession of a brother of Eustace de Moigne, who commanded the French fleet in the first year of Henry III., when a naval victory was gained by Philip d'Aubigné.

"The lords of the committee are humbly of opinion, that, in order to encourage persons to take and cultivate the said land, &c., and thereby to augment your majesty's revenues there, it may be advisable for your majesty, by your order in council, to empower the governors of Guernsey, for the time being, to grant leases of the said small islands, and of the other uncultivated lands; as also of all sloughs and ponds belonging to the crown within the precincts of their government, to such persons as are willing to take the same, and to their heirs, executors, and assigns, for and during the term of sixty-one years, renewable every twenty-one years at a fine certain of three years reserved rent; and that the rent to be reserved on the island of Herm, and the pond called the *Grande Mare*, be not less than twenty pounds per annum, and the rent of the other islands be not less than what they are now let at. And that, in the leases so to be granted, of all the said small islands, the governor do insert a saving clause, of the right of the inhabitants of Guernsey and also of Sark, to go upon the coasts of the small islands to fish and also to cut vraic (a sea-weed useful in manuring their lands), and to fetch from thence stones for building and other uses, in the same manner they have hitherto done.

Afterwards, in the reign of Edward II., the island belonged to the Norman family of *Vernon*, and they made certain grants to a Norman monastery. It was taken by the French in the reign of Edward IV., and recovered in that of Queen Mary; a small gain to be set against the loss of Calais. The account of its re-capture is from Sir Walter Raleigh, who, as Heylin (who retails the story) remarks, had, as governor of Jersey, fair means of learning the truth. He had fair means, also, of picking up the current legends or traditions about it, whether true or untrue. However, it runs thus:—The island was in the hands of the French, and was strong enough to defy the Grand Turk himself.* But the following stratagem won it back. The captain of a Flemish vessel told the French commander that he had a dead man on board, who had expressed, during his lifetime, a desire to be buried ashore. Would the commander let them land and bury him? "If you bring no arms with you—not so much as a penknife—Yes." So a coffin was landed, taken into the church, and opened. Instead of a dead body, it was filled with arms. The mourners and attendants provided themselves accordingly; sallied out, fought, and won. Meanwhile, a boatful of Frenchmen had been carried aboard the ship to receive some presents as a burial fee. They remained there as prisoners.

> "Instead of jewels and rings I wot,
> The hammer's bruises were their lot.
> Thus Odin's son the hammer got."

So runs the old Norse legend on a like deception and a like disappointment.

After this, in the reign of Queen Elizabeth, Sark was granted in fee to Helier de Carteret, who falsely represented that the island was left uninhabited. He settled on it forty families from Jersey: so that most of the modern Serkais are, really, the descendants of a Jersey colony.

At a later period the manorial rights of the island were transferred to the Le Pelley family, who held it for many years. It

has recently come into the possession of the family of Collings, of which the present seigneur is a member.

Since the peace of 1814, the history of the Channel Islanders has been that of a thriving and progressive population, sufficiently isolated to be free from the political storms which visited England, and sufficiently in contact with both England and France to partake of the movement by which the civilization of the present century is distinguished. Its details, however, connect themselves with the history of particular institutions, and the biography of particular individuals, rather than with that of the islands in general. The extent to which improvement has advanced, and the rate at which it has gone on in England, are fair measures of its extent and rate in Jersey and Guernsey; and contrasts between the present generation and the generation of our grandfathers, which are so easily drawn amongst ourselves, are just as easily drawn in the islands. Wealth has increased—commerce has extended—agriculture has improved—knowledge has been diffused, with the same results, and from the same causes, as in England. The peaceful character of the times has precluded the events of war, whilst the peculiar nature of their political relations has forbidden any parallelism to the political movements of other countries. The general view, however, of the islands in their present state is the best commentary on this.

INTERIOR OF A CROMLECH, GUERNSEY.

CHAPTER XVIII.

ANTIQUITIES AND ARCHÆOLOGY.

ANY doctrine which, either on the strength of their *insulation* (the word being taken in its strict etymological meaning) or with the view of explaining some particular detail invested with more than usual obscurity, separates the archæology and ethnology of the Channel Islands from that of the nearest portion of the continent of Gaul, carries with it so much undue refinement that, though it may possibly be sound, it should not be hazarded either gratuitously or on light grounds. With the exception of Japan and the Kurile islands, every smaller island on the face of the deep is definitely connected with some portion of the greater islands or continents. With the exception, too, of Iceland and Madagascar, every island is connected with the *nearest* portion of the continent. Add to this that, without any exception whatever, every island of the size of Jersey, or Guernsey, and equally near the main land, is, for all practical purposes, inhabited at as early a period as the corresponding part of the continent. The time, then, when the islands under notice were either uninhabited or inhabited by a population different from that of the main land, transcends history.

Now, at the beginning of the historical period, the nearest part of Gaul was Keltic.

At the same time, it does not follow that the conditions of the

continent, when a given island derived from it its first inhabitants, were the same as they were when they were first known to the historian. The island may have been peopled; after which the original population of the continent may have changed. This is a fact of no rare occurrence. Still the presumptions are in favour of the nearest congerers of a given island being found on the opposite continent.

On the other hand, however, it is certain that the *whole* of Gaul was not originally Keltic. The evidence that in the time of Cæsar the southern part was Iberic is conclusive. It is so, to some extent, at the present moment; inasmuch as the language of a part of Gascony is the same as that of Biscay; indeed, word for word, the two names are the same. In the first century, all Aquitaine was in the same condition as Gascony is now; *i.e.*, it was Basque, Biscayan, or (to use the scientific name) Iberic. The Garonne was the boundary. To the south of it, everything, with the exception of Burdigala, or Bordeaux, was Iberic; to the north, everything Keltic or Gallic.

Since, then, the Iberic frontier has, from the beginning of history, receded, whilst that of the Kelts has advanced; is it not impossible that, at some very early period, like the former, it may have extended so much farther northwards as for Britany and Normandy to have been, more or less, Iberic at the time when they sent forth the first settlers upon Jersey and Guernsey? All that can be said in answer to this is that the possibility of such a state of things should be recognised as an alternative in case certain phenomena require it. However, at the beginning of the historical period, the northern boundary of Iberia was the Garonne.

Of two other populations which the sea may have brought to these parts, and which either commerce or piracy may have taken thus far from their own homes, little need be said except a single word in favour of the high probability of the one and the possibility of the other having been brought thus far west

and thus far south. The first are the Phenicians, of whom few antiquaries fail to say much when they treat of Britain, Spain, and Gaul. The second are the Slavonians of the Baltic and Lower Danube, of whom, as bold sailors and early voyagers, the present writer, on a fitter occasion, would have more to say than many would agree to. To neither were the Channel Islands unknown.

Of anything, however, earlier than either the Kelts or the Iberians in Northern Gaul, there are no definite traces; though, it should be added, that there are not wanting able men who, deducing the majority of the dominant population of modern Europe from Asia, are willing to believe in a primeval race of aborigines, who, spread over the whole continent from the North Cape to the Straits of Gibraltar, from Lapland to Andalusia, are still to be found as actual populations, or else traced in their subterranean remains by means of crania, tumuli, and stone instruments.

At a later period, there was no lack of intrusive settlers from Germany and Scandinavia (and that on both sides of the Channel and all along the coast) from the Orkneys to the Isle of Wight, and from the Scheldt to the Tagus; but, though there is good reason for believing such settlements to have begun at an earlier date than is usually assigned to them, there is nothing which brings them to the south of the Seine during the first or second centuries.

Concerning the Greeks and Romans, our ordinary histories supply sufficient evidence.

Such are the real, probable, and possible factors in the ethnological and historical archæology of the Channel Islands. Anything that is earlier than the Kelts must have its explanation sought for amongst the Iberians. Everything later than the Kelts is Phenician, Slavonic(?), Greek, Roman, German, or Scandinavian. Beyond this field, no antiquary need wander.

The objects of the greatest antiquarian importance in the Island are, at the same time, the oldest; but they are, also, those of which the origin is the most obscure; and in this obscurity lies much of the interest. They affect the imagination; they stimulate the curiosity. In many countries, they urge it on into undue and crude speculations; but, in Guernsey at least, the study of them has been taken up with circumspection as well as zeal.

A CROMLECH.
Formerly near St. Helier's, Jersey.

They belong to one and the same class. When we name them from the religion, superstition, or mythology, to which they are mostly referred, we call them Druidic. When the name is determined by the family or stock with which they are chiefly connected, the denomination is Keltic. But as in each of these terms a slight (though scarcely an illegitimate) amount of hypothesis is involved, it is best to call them what they really are,—cromlechs, kistvaens, or menhirs: all words of Keltic origin, and all with a meaning in the Keltic dialects. A *cromlech* is a *heavy stone;* a *kist vaen* is a *chest of stone;* a *menhir* is a *long stone.* None of them, however, are names belonging to the Islands; indeed they can scarcely be called names of popular and general use anywhere. They are scientific terms; and their sense is definite and technical. But, unlike

many other scientific terms, they are, though strange in sound to the English ear, not only convenient but intelligible, in Wales and Britany, the chief districts where the objects which they denote are to be found.

The cromlechs in the islands remind the observer of altars or chambers, according as they remain closed, or have their cavities laid open. One of such chambers is, at the present time, what it has long been, a hovel or cow-house, *stercore fœda bovino.* Most of them, however, are altars, a name which partakes of the nature of tradition, since it seems to have originated in a time when vestiges of the old paganism had become extinct. Those who first called them so can scarcely be supposed to have speculated on their use; and, certainly, they never used them as altars themselves. This name, then, is subsequent to Christianity. That others were older, we shall soon find reason for believing.

It is to Jersey that the grandest cromlech of the islands, undoubtedly, belongs; if, indeed, an object can be said to belong to a country from which it has been taken away. Until 1788 it stood as in the engraving in the last page.

It was sixty-six feet in circumference, composed of forty-five stones, between seven feet in height, six in breadth, and four in thickness. It contained four perfect cells, and one destroyed. The entrance, running east and west, was fifteen feet long, four feet broad, and four feet four inches high. A medal of Claudius was found in one of the cells. About fifty yards south from the temple were five tumuli, masoned on every side, but not paved, lying east and west.

However, in 1788, it was presented by the States of the island to General Conway, the Governor, and, by him reconstructed in his park in Oxfordshire.

Such is the notice of it by Gough in his notes on Camden; and in an expansion of a short notice of Stukeley's, communicated to the Society of Antiquaries in 1761, and containing

notices of some of the Jersey remains, especially those of the parishes of St. Helier's, Grouville and St. Martin's.

It was the fate of General Conway's cromlech to be removed. It has been the fate of others to be destroyed on the spot. Mr. Bindextre (Poingdestre) who wrote some tracts on the affairs of Jersey, and died in 1691, says, that "there were not fewer than fifty of these temples and altars in the island, of which the greater part were demolished when Falle wrote his history of it. The cromlechs here are called *Pouquelays,* and there are some tumuli or keeps."

At the present time no more than four have been described as standing; and of these none is so perfect as the best-preserved ones of either Jersey or Guernsey.

The best of the modern cromlechs of Jersey is behind Anne Port, close to Mont Orgueil, and is figured in another page. It is remarkably perfect.

Alderney was formerly extremely rich in cromlechs and other antiquities of the kind. Most of them are now entirely obliterated, and all are obscure. Sark has but few, and in poor condition. Herm offers nothing of especial interest.

Of the cromlechs of Guernsey, those of L'Ancresse Bay are the chief. They are those that have longest commanded attention, and are most fully described. In 1811, a partial, a very partial, exploration was begun; or rather, we should say that, in 1811, they were first brought to light. Some soldiers, in clearing away the sand, came upon them; this had long been accumulating; for, though what is called the cotemporary evidence of the outline of the Guernsey coast having been in any important points different from what it is at the present time, is inconclusive, the physical evidence of the sand having encroached is complete.

Besides those at L'Ancresse, there are cromlechs of importance and in good condition, chiefly at the back of the island, between Rocquaine Bay and the Grande Rocque. The interior of one of these is figured at the end of the last chapter.

The great cromlech of L'Ancresse Bay, which overlooks the sea, the granite walls of which may easily be confounded with the ordinary rocks of the parts around, is remarkable, both in respect to its size and the complexity of details. With five vast capstones, it stands within a broken, fragmentary, and somewhat indistinct circle of smaller stones; and, at its eastern entrance, there is a secondary, or smaller, chamber. The present names, Temples des Druides and Autel des Vardes, are, according to Mr. Lukis, new,—the older name being Le Mont de St. Michael. When explored by the archæologist just named, who devoted much valuable time, and bestowed careful personal superintendance in his investigations, the whole of the interior was choked up with sand and rubbish. The soldiers of 1811, who had first hit upon it, were deterred from anything like an excavation by the fear that the walls might give way and the capstones crush them. No such fears deterred the later explorer. A layer of sand at the top, with a darker and firmer layer as a second stratum, led to the third bed, in which were embedded horses', oxen's, and hogs' bones. Beneath this, the lowest layer contained the bones of men and women, some burnt, some unburnt; the burnt ones calcined rather than charred. Under these, a floor of stones: and on one part of it a miniature cromlech: *i.e.*, a small capstone on stone props, and under it arms and bones. But the great mass of remains lay on the floor at large, with kelts, arrow-heads, mullers, grinding-troughs, quoits, and hammers, all of stone; all of stone, without any instrument of any kind of metal. Of these, some were of obsidian, some of jade. Of frailer material, but still in good preservation, were numerous jars, of different forms and sizes; some coarse, and round-bottomed, others ornamented with zigzag lines. The nearest approach, both in ornamentation and shape, to these are from Friesland and Lower Germany, the old Saxon countries; though, from the rudeness and simplicity of the work in general, they have near congeners almost everywhere. They

were unburnt; and, in no respect, like any of the well-known samples of Roman workmanship. Between the extreme forms, there was a sufficient difference to suggest the very reasonable doctrine that they were of different dates; and the same inference was drawn concerning the human bones. There was a higher layer and a lower layer, and the older remains belonged to the lower. It was not, then, by a single burial, or even by a single generation, that the floor of the cromlech was covered. In this, too, as in all others, innumerable limpet shells were found; just as in the Danish *kjokkemiddings* whole heaps of shells of the edible mollusca have been preserved.

GROUP OF ANCIENT POTTERY.
From the Museum of F. Lukis, Esq., Guernsey.

The vases here figured were obtained from the cromlechs of Guernsey—the four central ones from those at L'Ancresse and "De-hus;" the smaller one, in the foreground, with knobs, from the "Tombeau du Grand Sarazin;" and that on the right from the "Creux es Fées."

All of them stood on the floors in the interior, amidst human remains. No bones or ashes were within them, but they appeared to have been carefully placed.

They are constructed of extremely coarse clay, and have been made by the hand alone, showing no mark of the potter's wheel. The clay appears to have been worked into shape and partially sun-dried before receiving the final impressions by which a rough kind of ornament is given. They have afterwards been imperfectly baked.

The substance of the above remarks has been communicated by Mr. Lukis.

The evidence that they had been previously disturbed by the treasure-seekers of a rude age, but of an age when greedy men were not daunted by superstitious fears, varies, of course, with

the several cromlechs; and, perhaps, even where it is the strongest, is capable of being improved. Still, the presumptions are in favour of it.

The same rule applies to a much more important question. Were the cromlechs originally covered by earth so as to be, externally, *tumuli?* The evidence that *some* were so covered is strong. With many, it is an inference drawn from the analogy of others. What was the rule? Where were the exceptions? In the notice of one of the cromlechs of the Pyrenees, we find the fact of there being an accumulation of bones and shells at the door of the cromlech, on the outside of which they all lay,—none being found inside. This looks like a feast after the entombment. If so, it is, *pro tanto,* against the *tumulus* having been universal. Its generality, however, must be tested by the minute examination of individual instances.

Among the numerous contents of these cromlechs are round beads of clay, which the islanders look upon as charms, and call *Les roulettes des Fées.* Doubtless they had, from the very beginning, some mysterious import, and passed for amulets.

Upon the rounded balls of the very hardest stones, smooth, and polished, and indicative of much skill and labour, a statement of Sir Robert Schomburgk, concerning exactly the same objects among the Indians of Demerara, throws some little light. How were they made? Sir Robert Schomburgk tells us that when the child of a Demerara Indian passes from infancy to boyhood, he has given to him a hard rough stone, which he must keep in his hands, rubbing and rubbing till it becomes smooth and round. It is years in becoming this; and by the time the task is achieved the boy becomes a man. Strange if, in Europe also, these rounded balls of hard stone represent some fourteen years of boyish work! Such, however, is the case in South America.

The cromlechs are called Druidic. But the ease with which the word Druid has been taken up, and the extent to which it has ob-

tained currency, are reasons for criticising it minutely; inasmuch as they show that it was laxly and in a general sense that it was first applied. Add to this that, after its application, it became a kind of nucleus, around which innumerable speculations were formed, in support of which much of what has never been shown to be Druidism has been adduced. Some of this arises out of the practice of lumping together in one system everything which partakes of its nature. Yet the early superstitions of mankind are, all the world over, wonderfully alike; and that independent of imitation and without belonging to the same system.

Some reasons for this tendency to undue generalization lie in the original connexion of Druidism with Britain, everything which could be called British being called Druidic also; and on the strength of this, the philosophy, superstition, or mythology of the Welsh bards and logographs has been incorporated. The primary fact in the criticism of all this is a negative one. At first hand, and from competent observers, we know next to nothing of Druidism. Nine-tenths of our knowledge comes from a couple of pages in Cæsar's Commentaries. That no one had better opportunities for learning the truth is plain; and in taking Cæsar's account as our chief text, we must notice not only what he says, but what he does not say. Now the evidence of the erection of menhirs, cromlechs, and the like, being any part of the Druidic system is *nil*. The most that can be said of his notice is that it gives us an approximation to something of the kind.

Premising that in Gaul the common people were of no account, Cæsar states that, between two privileged classes, the whole of the political power was divided; divided between the Knights and the Druids. The latter were the ministers and interpreters of the religious doctrines and observances (*religiones*). They directed both the public and private sacrifices. The youth of the country addressed itself to them for discipline and instruction. In private controversies and public councils, they decided.

Of murders, of inheritances, of crimes in general, and of disputes concerning property and boundaries, they took cognizance. The penalty they inflicted was excommunication. The object of their interdict was an outlaw. Justice had no remedy for him. His contact was shunned. At the head of the fraternity was an Arch-Druid; and when he died, the next in authority succeeded. In cases of doubt, even arms were appealed to. In the middle of Gaul, in the country of the Carnuntes (Chartres), was a consecrated spot to which, at a certain time of the year, they resorted. The discipline was believed to be of British origin, and it was to Britain where those who wished to learn it in its purity and fulness betook themselves. Free from the necessity of attending on the field of battle, and free from tribute, the Druid could devote all his time to his office, the mysteries of which he taught to youths who flocked to him from all quarters of Gaul. Some gave twenty years to the study, during which they learnt a great number of verses—verses from word of mouth; unwritten verses. In this there was a double policy. Writing would make the mysteries accessible to the uninitiated. Reference to writing might impair the memory. Such were the reasons. It was not for want of letters, for they had the Greek ones.

In the way of subject-matter they taught the immortality of the soul (*non interire animas*) under the form of the metempsychosis, asserting that after death the spirit animated some one else. In this they saw a stimulus to courage, and a means by which death lost its terrors. Much besides this did they teach; much concerning the stars and their motion, the universe and the size of the earth, and the power of the immortal gods.

They had a willing audience: for the whole Gallic nation was greatly given to superstitions (*admodum dedita religionibus*); and when war or trouble impended, human sacrifices were offered. Without life for life the gods were not to be propitiated. Some of the immolators constructed vast effigies (*simulacra*), the limbs

of which they filled with human beings, and after covering them with faggots (*viminibus*), set a light to them, and burnt the victims. Criminals thus sacrificed were looked upon as the welcomest offerings. If criminals, however, were wanting, the blood of the guiltless would suffice.

Their chief god was Mercury, of whom there were many images: after him Apollo, Mars, Jupiter, and Minerva, to each of whom they attributed the same functions and qualities as the world at large. To Mars they sacrificed prisoners of war. Animals, too, taken as spoil, they sacrificed; but chattels of any other kind (*reliquas res*) they garnered up into one place. In many of their cities (*civitates*), on consecrated spots, might *tumuli* (the word is Cæsar's) be seen, and very rarely did it happen that any one either failed to pay in his share, or violated the sacred hoard by sacrilegious plunder. The wages of this was torture.

That the Gauls were descendants of Dis was what they were taught by the Druids: on the strength of which descent they reckoned time by nights rather than days. No one's son could appear with his father in public before he was fit to bear arms. This, however, is a civil or a military, rather than a religious institution.

With the exception of the doctrines suggested by the word *tumuli* (a word to which due importance is given), there is, assuredly, nothing in this account which explains, or even suggests the menhir or the cromlech: and the absence of any notice of any erection of stone is all the more remarkable from earthwork and wickerwork being named; not to mention the fact that nothing is said about anything of the kind in the country of the Carnuntes.

Cæsar's notice of the Druids is the chief one. The one in Lucan is little more than a rhetorical reflection upon their doctrine of the soul's immortality. In Strabo, the Vates are mentioned as a third order. In Tacitus, the Druids appear

within sight of the battle-field and inflame the courage of the soldiers by their exhortations. Beyond these authors, there is little of anything definite: and neither in these, nor any other, do we find anything that connects stone masonry with the Druidic religion.

More important, however, than all this is the fact that Druidism, though (from the accident of its being described by Cæsar) it is the most prominent portion of the old Keltic religion, was by no means the whole of it. Deity after deity can be discovered if we only take due notice of fragmentary notices, vague allusions, and mysterious inscriptions, all of which, though short, are real, and all of which, though they tell us little, tell us something. Take the following three names from as many lines in Lucan, scarcely sixty years later than Cæsar:—

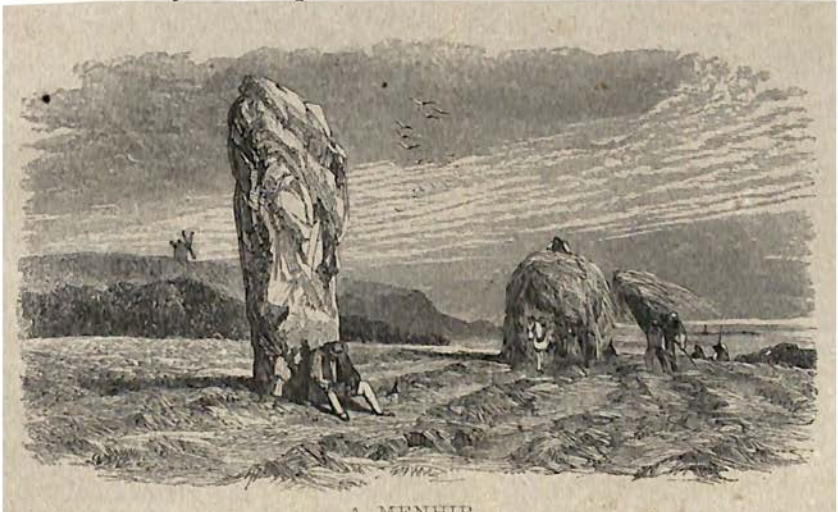
> "Et quibus immitis placatur sanguine diro
> *Teutates*, horrensque feris altaribus *Hesus*,
> *Et Taranis* Scythicæ non mitior ara Dianæ."
>
> *Pharsalia*, i. 444.

Add to these the names (some of them, perhaps, Slavonic) of Belis, Belin, or Belinus; of Epona; of Belisaria; of Ogmius; of the Deus Peninus; of Andarte; of Matronæ, or Nymphæ, Nehalenniæ, Rumanehæ, Vacallinchæ, Aufaniæ, with, at least, ten others collected from inscriptions, and the Pantheon becomes so large as to suggest the possibility of Druidism being only a small fraction of it. Again—the lines of Lucan show that, though the use of the cromlechs as sepulchres is beyond doubt, they may have been altars as well; altars for human sacrifices, on which the victim was immolated, and afterwards buried under them.

Respecting the age of these remains the most important point is the fact of one French menhir having a sort of date:—

RATN BRIVATIOM.
FRONTV TARBEL . . INOS
IEVRV

The meaning of this last word (*ievrv*) is all in all. If we only knew what it meant, and to what language it belonged, it would tell us much. It would throw a light upon four other inscriptions, for in four others it is found. It is found on Keltic ground. It is found in two alphabets; *i.e.*, it belongs to those Gauls who used the Greek letters derived from the Phocæan colony of Marseilles, and to those who used the Latin letters introduced by the conquerors from Rome.



A MENHIR.
One of the ancient Monoliths of Guernsey.

If it were certain that it meant *inscribed* or *consecrated*, it would tell us more; *i.e.*, it would tell us the date of inscription, and (so doing) would bring it down to the Roman period. But it would be a word of extraordinary importance, if, on the strength of any undoubted etymologies, it could be shown to mean *erected;* because, in that case, it would give us a real date; a date which, whilst it applied to the menhirs, might perhaps apply to the cromlechs and kistvaens also; for it cannot be denied that, in the present state of archæological criticism there is a tendency to throw cromlechs, kistvaens, into the same category, which, in all probability, is right.

The menhir in question is one from Veux Poitiers. It was noticed by Bourignon de Saintes as far back as A.D. 1783. It has since been described by E. M. Siauve, by De la Massardière, by Bottin, by Chaudruic and other French antiquaries. Neither has it been neglected by the Germans and Swiss, whose researches, however, have been directed towards the language itself rather than to the monuments. That *erected*, however, is, at least, as likely a translation as any other is admitted; though the inferences from it as to the recent origin of the menhirs themselves have been overlooked.

That the translation may be wrong is not impossible. The probability, however, of its being true, and the deductions that flow from it (if true), must not (as has been too much the case) be wholly overlooked, or ignored.

Be this, however, as it may. Simply as menhirs, the monoliths so called have no appearance of being newer than the cromlechs; and the inscribed monolith of Veux Poitiers, simply considered as a menhir, has no appearance of being newer than the rest of its congerers. The possibility, then, of Roman skill having directed the physical strength of a ruder population in the erection of the great stone memorials of Gaul and Britain may be recognised as a bare possibility; and it may be added that this is all that the present writer suggests; though much more has been suggested by others. The author, for instance, of the *Cyclops Christianus* has committed himself to the doctrine that the British and Armorican monuments (Stonehenge included) are of no earlier date than the fifth and sixth centuries, to which he ascribes a system of what may be called Neo-Druidism, *i.e.*, a revival of the old Gallic and British religion combined with a strange admixture of Paganism and Christianity. The special evidence of this is of the slightest. The great objection, however, to the notion is that it is a positive doctrine founded on a negative fact. It is in the highest degree improbable, argues the expositor, that, if so remarkable an erection as Stonehenge

existed, it would have been left wholly unnoticed in the Roman accounts of Britain.

Even if the Roman accounts were as full and complete as they are fragmentary and defective, this argument would have but little cogency. What say the Scriptures about the Pyramids? Nothing. Yet Egypt was as well known to the Jews as Britain was to the Romans, and the Pyramids are certainly as striking as Stonehenge. It is submitted, then, that the few facts in favour of the post-Roman origin of the great monoliths, and their congeners, are wholly inadequate to the superstructure which rests on them.

Another class of superstitions, or, rather, of ebullitions of religious feeling, is one which we may bring home much nearer to the Channel Islands than even the Druidism of Gaul and Britain; one concerning which the few notices which have come down to us specially refer to some island of the Channel, if not limited to it. We can hardly give it a name; because even the name of the island in which it was exercised and the names of the exercisers are uncertain. Still, as we have it, it is essentially insular. Nor is this wonderful. In all parts of the world, islands have been the special localities for certain superstitious ceremonies. Whether it be from their isolation, their comparative solitude, the fact of their being the occupancy of the ruder and more primitive portion of the population, or from some similar, though uninvestigated, reason, they have always been the conservators of some notable form of superstition, which has shown itself in smaller dimensions and on a smaller scale on the Continent. In this way the first notice of the old heathenism of the Angles is connected with a holy grove, in a holy island; the island being either Heligoland or Rugen. In this way there are notices of ten holy islands for one hallowed portion of the Continent.

For one of the islands of the Channel, there is a notice as early as the first century of our era; being found in Strabo.

But, as he quotes it from Artemidorus, we may make it two hundred years older. It came to us from the Greeks, and not from the Romans, and, so doing, may have found its way to the informants of the original authority through either the Phenicians or the Greeks of Marseilles.

It consisted in a wild and mysterious meeting of devotees, who gave themselves up to a periodical indulgence in a set of orgies, which reminded the Greeks of those of the Bacchanals in Thrace, or of the frantic revellings they had heard of in India. Women alone joined in this; and it seems that, even during the intervals, they kept the island in which they occurred as the exclusive occupancy of their sex. Like the Amazons, they only visited their husbands at certain periods. This gives us the main facts of the picture, which is, probably, exaggerated. All about the wreath of ivy with which they decked their heads, and shook madly during their intoxicating dances, seems to be borrowed from what the historians had heard of elsewhere. The same applies to the doctrine of Bacchus being the deity in whose honour they were held. Under the actual name of that intoxicating divinity no member of the Channel Island Pantheon could have been known in the Channel Islands. That the excitement, however, was Bacchic enough to deserve it, can be easily believed.

The notice itself is as follows:—

"They say there is a little island, not far out of the ocean, over against the mouth of the Ligeris, inhabited by Samnite women, inspired by Bacchus, whom they worship by ceremonies and sacrifices. No man ever comes thither; but the women come off in boats to enjoy their husbands' embraces, and then return to the isle again. It is also the custom to take off the roof of the temple every year, and put on a new one the same day before the sun sets, every woman bringing her load, and she who lets fall her load is presently torn in pieces by the rest, who, heaping up the mangled limbs with shouts at the temple, do not leave off till their furious transports subside; and it always happens that one of them does let fall her load, and is thus torn to pieces. These things savour somewhat of the fabu-

lous; but he [Artemidorus] states with regard to Ceres and Proserpine, what is more worthy of credit. For he says that there is an island near Britain, wherein are celebrated sacred rites, similar to such as were celebrated in Samothrace to these goddesses."

The *last* notice of it in the reign of Queen Elizabeth,—the poetry being from Drayton's curious, lengthy, but not unpoetical Polyolbion: the notes to which are by the learned Camden. In these we get the germ of the present criticism.

"Thus scarcely said the muse, but hovering while she hung
Upon the Celtic wastes, the sea-nymphs loudly sung;—
O! ever happy isles, your heads so high that rear,
By nature strongly fenc'd, which never need to fear;
On Neptune's wat'ry realms, when Æolus raised wars,
And every billow bounds, as though to quench the stars.
Fair Jersey, first of these, here scatter'd in the deep,
Peculiarly that boasts thy double-horned sheep;
Inferior not to thee, thou Guernsey! bravely crown'd!
With rough embattl'd rocks, whose venom-hating ground
The harden'd emeril hath, which thou abroad dost send;
Thou Ligou, her belov'd, and Sark, that doth attend
Her pleasure every hour, as Jethou, them at need,
With pheasants, fallow deer, and conies thou dost feed!
Ye seven small sister isles and Sorlings, which to see,
The half-sunk seaman joys; or whatsoe'er you be!
From fruitful Aurency, near to the ancient Celtic shore,
To Ushant and the Seams, whereas those nuns of yore
Gave answers from their caves, and took what shapes they please
Ye happy islands set within the British seas."

Let us see what is got by connecting these two notices, giving special heed to that of the *emeril* (some mysterious mineral), and *the Seams*.

Three other writers, whom, by courtesy, we may call classical, mention these Bacchic orgies, and the fact of their being women who enacted them. They all copied one another; so that, except so far as they show the generality of the belief that some island in these parts witnessed something mystic and

mysterious, they are not very important. Still, as they relate to an obscure portion of an obscure subject, I give the two last in full. The first is by Diogenes Periegetes, of which the third is all but a literal translation.

"Sed summam contra sacram cognomine, dicunt
Quam caput Europæ, sunt stanni pondere plenæ
Hesperides: populus tenuit quas fortis Iberi
Ast aliæ Oceani juxta Boreotidas actas
Sunt geminæ, Rhenique Britannides ostia cernunt;
Hic etenim lasso perrumpit Tethya cursu
Has tamen haut valeat spatio superare per orbem
Insula; perfulget nigro splendore gagates
Hic lapis, ardescens haustu perfusus aquarum.
Ast oleo perdens flammas, mirabile visu:
Attonitas rapit hic teneras, seu succina, frondes.
Nec spatio distant Nesidum littora longo,
In quibus uxores Amnitum Bacchica sacra
Concelebrant hederæ foliis tectæque corymbis.
Non sic Bistonides Absinthi ad flumina Thraces
Exertes celebrant clamoribus Εἰραφιώτην."

There are several in the current text; but they are not of sufficient importance to delay us.

The next is as follows:—

"Eminus hic aliæ gelidi prope flabra Aquilonis
Exsuperant undas et vasta cacumina tollunt.
Hæ numero geminæ, pingues sola, cespitis amplæ,
Conditur occidui qua Rhenus gurgitis unda,
Dira Britannorum sustentant agmina terris.
Hic spumosus item ponti liquor explicat æstum,
Et brevis e pelago vertex subit. His chorus ingens
Fœminei cœtus pulcri colit orgia Bacchi.
Producit noctem ludus sacer: aera pulsant
Vocibus, et crebris late sola cantibus urgent.
Non sic Absynthi prope flumina Thracis alumnæ
Bistonides, non qua celeri ruit agmine Ganges
Indorum populi stata curant festa Lyæo."

What is the island here alluded to; for all the notices make it an island? Between the accounts there is, at the first view, hopeless confusion, to which the notice of the *Rhenus* (*Rhine*) adds. The allusion, too, of the stone, may be passed over. Whether, word for word, *gagates* be *achates* (the *agate*), or *jet*, or both, is irrelevant, except so far as it seems to be the *emeril* intended by Drayton, and which Camden passes over without notice; probably, because, like worse men who have come after him, he had nothing to say about it.

What, however, was the name of the island? Camden suggests that, between the *Seams* of Drayton and the Ἀμνῖται and Samnitæ, there may be a connection; and *Seams* he makes an island off the coast of Britany. "*Sena*, in the British sea, opposite to the coasts of the Osismii, is remarkable for the oracle of a Gaulish deity, whose priestesses, nine in number, are devoted to perpetual virginity. The Gauls call them *zenæ*, or *lenæ* (for so we must read with Turnebus for *Gallicenæ*), and imagine them endued with singular talents for raising storms by their songs; changing themselves into what animals they please; healing disorders incurable to others; foreseeing and foretelling futurity." This is from Pomponius Mela, who evidently alludes to the same superstition, if not to the same island. The songs and the feminine character of the singers tell us this. But the text of Mela is doubtful. What is meant by *zenæ*, *lenæ*, or anything suggested in their place? The word was a Gallic gloss, and, as such, unintelligible to the Romans as it is to us.

In the Itinerary, however, of Antoninus, we have a corrupt text which gives us the name *Uxantisena* = *Uxantis* and *Sena*, two islands run into one. Pliny, meanwhile, gives us *Sounos*, according to one reading, *Siambis* according to another. That these are garbled forms of *Samnis* or *Amnis* (or *vice versa*, that *Samnis* and *Amnis* are garbled forms of something like *Sounos* or *Siambis*), is no conjecture of the present author's, but of

Camden's,—and it is a reasonable one. If so, the island is the modern *Sayn*, which, in its final form, emerges after a long series of transformations and false analogies in *L'Isle des Saints*—holy enough, perhaps; holy, perhaps, in a modern sense of the word; but originally holy as the island of the Bacchic orgies of the nearest kinsmen of the women of Jersey, Guernsey, Alderney and Sark. Such is the obscure and scarcely legible page of the early Channel Island mythology, which, after Camden, we venture to reproduce.

Some of the names connected with the cromlechs are, decidedly, Keltic.

In Worcestershire, at least, the well-known Broomsgrove *Licky*, or Broomsgrove Rock, tells us who were the men and women that first dwelt under its shadow and on its side. The same term appears in Poque-*laye*; for, whatever may be our doubts as to the meaning of its first element, the second is simply a Gallicized form of the word *lech* = *stone*; a word of remarkable longevity; a word, almost as indestructible as the very rocks to which it applies. In this manner, the Poque-*laye* is the *stone* connected with something or other, though what that something was is uncertain. Some have suggested that it was the stone of the hobgoblin *Puck*; which is anything but unlikely. The derivation, however, of the latter part of the word may be relied on.

It is safe, too, to make the *Autel de Dehus*, the *Devils* (or *Deuce's*) *altar*; notwithstanding certain differences of pronunciation, which tend to disguise its origin. In the parish of the Vale, for instance, it is pronounced *du thus*. Elsewhere, the *h* is sounded so strongly, as to make it look like two words.

That the *Dusii* were Keltic deities, is expressly stated in a passage of St. Augustine, often quoted.

The *Creux es Fées*, the *Chambre es Fées*, and the *Fontaine es Fées*, tell their own story. Upon the *Rocque Balan* and the *Trepied*, there is room for a difference of opinion. None of the

names, however (except so far as they are French), are of Latin, and none of German origin.

Of Roman remains there are few; more, perhaps, in Alderney than the other islands put together. These, however, consist of pottery and bronze instruments, rather than fortifications. The coins, too, are few, being chiefly those of the third century, *i.e.*, of the Antonines, the Commodus, and the Severus.

Across the isthmus of the peninsula of *Jer*burg is a true *Car*-dyke, *i. e.*, a fosse, connected with a fortification, the fortification bearing the Keltic name of Caer, as in *Caer*narvon, *Car*-lisle, *Caer*leon, and other towns in Britain. That this word is the root of the first syllable in *Jer*-burg (as well as *Cher*-bourg), is almost certain.

In ecclesiastical architecture, if we look at it from an English point of view, the style, which, for the oldest parts of the oldest buildings is, as we anticipate, pre-eminently Norman, falls into two varieties—(1) the early Norman, of the Norman of what was in England the Saxon period; and (2) the Norman of the times subsequent to the Conquest.

In the Norman of the Saxon period, we have in Guernsey the notice of eleven chapels, that of:—

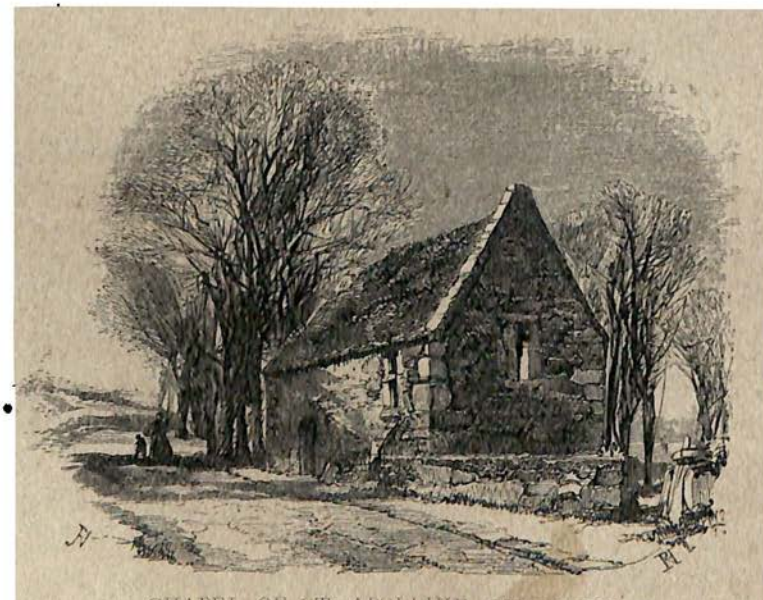
1. St. Magloire, probably the oldest.
2. St. Apolline, perhaps the second.
3. St. Jacques.
4. St. Julien.
5. St. Catherine.
6. St. Clair.
7. The Chapelle d'Anneville.
8. St. George.
9. St. Anne.
10. St. Brioc.
11. A chapel near Aulias in the Vale.

There is also the chapel of the Priory of Lihou, of which there are some small portions still remaining.

Of these one only remains, represented in the engraving on the next page. It is the second on the preceding list. Of rough masonry, with thick walls, unhewn stones, and mortar made from limpet shells, the chapel of St. Apolline is simply a

chamber of cyclopean architecture, twenty-seven feet by thirteen, with a round arch to its door, and a narrow window, or light, divided horizontally by a transom, consisting of a single stone, resting upon two monolithic uprights, themselves placed on a stone of similar character with the upper one. The bottom of this unambitious window, with its opening of forty-eight inches by thirteen, is but four feet from the ground. Traces of painting appear on the walls; these being of later origin than the masonry of the building itself. In the Catel church, there are three frescoes of a similar rude character. These were common. During the Reformation, however, they were either destroyed, or washed over.

In Jersey, the church of St. Brelade, of which a view is given in page 328, is the oldest. There is in the churchyard a small chapel, with frescoes, considered older than the principal building. There are many others in different parts of the island, but this is the only one in decent preservation.



CHAPEL OF ST. APOLLINE, GUERNSEY.

CHAPTER XIX.

LANGUAGE AND LITERATURE.

THE language of the Channel Islands is essentially that of the opposite coast of Normandy; being which, it is, in the eyes of a Frenchman, French. In England, however, from the fact of its being a clear and lineal descendant of not only the French, but of the French which was introduced into England by the Norman Conquest, we are more inclined to call it Anglo-Norman. Nor is the name an improper one, even from a continental point of view. The tongue took deep root in England and flourished well. It was, until the time of the kings of the house of Lancaster, or for upwards of three centuries, the language of the English court, and the English nobility. It was, to a great extent, the language of the church and cloister; and, until the time of Edward I., the language of the most important portion of our literature. That its encroachments upon the native English have been exaggerated by able writers and high authorities, is true; but this only shows that its use was less exclusive than is generally believed. When all deductions from its influence and importance, that can fairly be supported, have been made, it was still essentially the chief language of England.

More than this. Notwithstanding the fact that the French of England was but an offset from that of the Continent, it was in England that it was most especially cultivated. It is scarcely too much to say that it was in England that it took the form of

the mother-tongue of the present French; *i.e.*, that in England (if not first reduced to writing) it was first made the vehicle of any compositions which made even a distant approach to any literary merit. Whatever was written in it before the Conquest, belongs, of course, to the soil of France alone, and by France alone can be claimed. But it surprises us to find how little there is of this that even the most acute industry of the French antiquaries have discovered. The earliest works of either merit or magnitude, are of English origin; and it was in London, rather than in Paris, that the literary French of the present time took its origin. The start, so to say, was on British ground; though, after a time, a concurrent literature arose on the other side of the Channel as well.

The cultivation of the early Norman began in England, not only when compared with Parisian, but with Norman, France. But little was written in Rouen; though many of the writers of England were of Norman birth and education. The French, then, of Normandy, was Norman French; of which that great moiety which was transplanted into England, and flourished in England so successfully, was Anglo-Norman—*i. e.*, the French of Normandy on English soil.

As the true French of the parts more immediately around Paris grew into cultivation, the French of England, against which the original English was steadily effecting a reaction, waned both in purity and importance, and by the time of Edward III. there was a notable difference between the two. During that reign English had so far re-asserted its original rights, that French, even to the sons of the nobility, had to be taught—so far was it from coming naturally to them. A well-known passage in Chaucer tells us how the nun of the Canterbury Pilgrimage spoke French:—

> "After the scholc of Stratford at-le-Bow,
> For French of Paris was to her unknowe."

and an equally curious but less known passage of Walter de Bibleswörth, who lived under Edward I., and composed a tract, at the request of the Lady Dionysia de Moncheusi, a Kentish heiress, for the use of her children (of whom, by the way, she had none), although he recommends that French should be learnt first and English afterwards, suggests the notion that, even for the French, the niceties of gender required special teaching. The pupils were to be taught when to say *mon* and when *ma*, when *je* and when *moi*. "Et tut issi troverez-vus tot le ordre en parler e respondre ke cheeun gentyshomme covent saver; dount touzdis troverez-vus primes les Fraunsoys et pus le Engleys suaunt; e ke les enfanns pussunt saver les propretez dire des choses ke veyunt, et kaunt devunt dire *moun* et *ma soun* et *sa*, *le* et *la*, *moy* et *jo*."*

That French, even in the widest sense of the word, meant only the language to the north of the Loire, need scarcely be added. To the south of that river, the language which now passes for little more than a mass of French dialects, was, in the eleventh, twelfth, thirteenth, and fourteenth centuries, (as well as both earlier and later) a distinct tongue, with a separate name, an independent and earlier literature, and a well-marked grammar. It was the Provençal, which, in Languedoc, graduated into the Spanish of Catalonia. Indeed, it was a language which, though common to both France and Spain, was different in all the points which raise a language above a dialect from both the ordinary French and the Castilian Spanish. At one period, this second language intruded itself, in a slight degree, into England; perhaps, in a slighter degree, into the Channel Islands. This was during the English possession of Aquitaine; and we must remember that, with the exception of Calais, a portion of Aquitaine was retained by us longer than any part of Northern France. Nevertheless, no one has succeeded in finding any Provençal elements in the Norman. Geographical contact

* T. Wright, Volume of English Vocabularies, p. 143.

between it and the Norman of Normandy, there was none, inasmuch as the Keltic duchy of Britany lay between the two districts. Even where there was a common frontier, there was a definite line of distinction. The French had no love for the Provençals; and the Provençals considered themselves as distinct from the French as an Italian or a Spaniard might have done.

Respecting the earliest author, we know but little; more, perhaps, about the man himself than about his name. Waice, Gace, Huistace, Extasse—all these are varieties of it. The initial of his Christian name was *R*—, but whether this meant Robert or Richard, is uncertain. The Abbé de la Rue decides in favour of Richard; and that on reasonable grounds. He finds a charta of the year 1120, in which the names of *Richard* Wace, and Richard de St. Helier's are associated, and as the charta relates to the property of the bishop of Coutances, it points decidedly towards Jersey and as decidedly connects the Wace family with that island.

That the poet's father left Jersey, and fought under the Conqueror at the battle of Hastings, that after the Conquest he had lands assigned to him in Nottinghamshire, may or may not have been the case. The argument here is entirely inferential; and as the name was a common one, and as the family was a large one, it is by no means unexceptionable. The poet, however, was undoubtedly a native of Jersey.

He studies at Caen, devotes himself to the composition of romances, and seeks for patronage in England.

> " Quand jo de France repairai,
> A Chaen longues conversai,
> De romans faire m'entremis,
> Mult en escris et mult en fis."

That Wace was what he was because he was a Channel Islander no one, however much he may be steeped in local patriotism, can maintain. Still, he was a Channel Islander in the way that Shakespear was a Warwickshire man; and

those who have watched with either sympathy or sarcasm, the spasmodic efforts made and making to identify Shakespear with a small plot of land and an equivocal tenement in Stratford-upon-Avon, may contrast the comparative apathy of the Jerseymen concerning one of the great lights of literature to which their island gave birth. A fair amount of literary credit and importance has been claimed for him; but if we go closely into the matter it is utterly incommensurate with his high merits. He was not, it is true, the first writer in the old Norman French. He is not the greatest writer of a national epic. As he called himself a romance writer, epic is, perhaps, too high a term. Still, as epics go, when we look at the Henriade of Voltaire, or even the greater, but not less national, poem of Camoens, the word may pass muster. The claimant for one of the highest places in the literary Pantheon on behalf of Wace, may fairly urge that of all the poems in the Anglo-Norman which have come down to us, with the definite facts of authorship, time, and place beyond dispute, his is as early as any; if not the earliest. More certain still is it, that of great national poems delivering narratives of what struck the mind and temper of the nation to which they were addressed as true and touching history, it is the earliest in any language of modern Europe. There were poems in the language of some part of what now constitutes France earlier. There were some poems in even the northern Norman, or Parisian, part of France; in the Langue d'Oc as opposed to the Langue d'Oil; in the Romance as opposed to the Provençal; in the French proper as opposed to the Catalonian of Spain and its allied dialects to the south of the Loire. But these were, at best, satires, love-poems, and Lives of the Saints; all beyond them being of uncertain date and disputed authorship.'

The first writer in the Norman dialect is said to have been Richard I., Richard *Sanspeur*, the second duke, or the third from Rollo, who was no true duke, but only the founder of a ducal dynasty. He is said to have been sent to Bayeux to learn

Danish, then spoken in Bayeux only. That this Danish was probably Saxon, or, in other words, Old English, has already been suggested. Nothing, however, of Richard's has come down to us. Then came Taillefer, warrior, minstrel, and juggler (jongleur), who stepped out of his rank at Hastings and defied the enemy by pitching up swords and catching them cleverly, singing at the same time the song of Roland—the song

> "De Karlemaigne et de Rollant,
> E d'Olivier, et des vassals,
> Qy moururent en Roncesvals."

But who wrote the song? The authorship of this has been claimed for one Turold, a poet with a decided Danish name, and the poem has been published. But the world at large is not satisfied that it was the poem which Taillefer chanted in the space between the two armies: nor does the story itself look like the true detail of a great battle.

Thiebaud de Vernon is rather earlier than Wace. A great deal is attributed to him; *i.e.*, three Lives of the French Saints, in verse, and fifty-six in prose. But the authorship of all these is impugned, whilst a Life of St. Vandrille, allowed him, is lost.

Philip de Than was, at most, but a cotemporary of Wace's; and his writings were merely so much book-work from the Latin. He wrote on Natural History,—Le Livre des Creatures. From the use of the Latin in Domesday Book, and many later documents, we infer that it was not till the time of Henry III. that that language was, for prose compositions, in any degree superseded by either English or Anglo-Norman.

Such are the claims of Wace to be considered as one of the founders of the literature of the modern tongues of southern Europe,—the tongues derived from the Latin. More massive than the Provençal poems, the Roman di Rou is earlier than either the Inferno, or the Cid, and, though not more national than the latter, more epic; whatever that term may convey or whatever may be its value.

A romance on St. Brandan and his real or imaginary travels, and another on a journey of Charlemagne's to Jerusalem, refer to events of an early date. But what was the date of the poems? Charlemagne was probably older than Wace; but it is a short and unimportant, though curious, poem. Gaimar and Benoit de St. Maure were, like Philip de Thaun, cotemporaries of Wace,—later rather than earlier ones. Still, they belong to the same reign and, perhaps, to the same decade. If we compare Wace with these, we must examine carefully; and, above all things, arrive at the import of the date of 1120, noticed above. If the poet be the Richard Wace of the charter, he could scarcely have been younger than the century. He began, from his own account, to write early. If he finished the Roman de Rou before he was fifty, it would belong to the first half of the century.

Be it, however, old or new, it is the first national epic of modern Europe, for Benoit and Gaimar were mere chroniclers.

Be it old or new, it is, at least, one of the works that helped to form the literary language of northern France.

In giving Wace his full due, we must guard against claiming too much for him. Though one of the earliest, and, in the choice of his subject, by far the most original of the writers in the Anglo-Norman, he can scarcely be said to have written it as a native of Jersey. If he had done so, the island which gave him birth might claim the honor of having been the *fons et origo* of the literary Norman; indeed, of the literary French. But this was not the case. He wrote in the French of France.

As this, it was used by Wace, not as he took it from his nurse, his parents, and his neighbours, but as he found it, either in Coutances or in England, among his teachers, or among his patrons. It was the language of his cotemporaries and of his few predecessors. It could scarcely have been the insular dialect: except so far as the insular dialect may have coincided with the other two forms of speech,—one or both. In all pro-

bability, it differed from them a little. Little or much, however, the language of Wace is the language of Normandy in general.

Nor does the national character of his work mean that it was founded on the legends or traditions which had either grown up spontaneously among the Normans or been handed down as narratives. He took the accounts as he found them; and these were the accounts of bookmen who wrote in Latin; followers, in most cases, of the one primary authority, Dudo de St. Quentin. Being this, it recognises nothing but Danes, and is very far from the hypothesis suggested in a previous chapter of a mixture of Danes, Saxons, and Goths. Still, the basis is the common belief of the Normans themselves. It was not one which will bear minute and analytic criticism. Still, it was sufficiently general, and sufficiently strong to form the basis of a poem which came much closer to the feelings of its reader than anything which had preceded it: this feeling being intensely Norman and national.

Such is the notice of that portion of the old Anglo-Norman literature which was most closely connected with the Channel Islands, and which most nearly approaches the character of a true insular composition. The proper complement to this is a sketch of the language in its present form. Of this, Guernsey gives us the best representative: being less affected by the French than Jersey, and less by the English than Alderney. The extent to which they differ from the ordinary French may be seen in the translations.

That even within each island, taken singly, there are minute differences of dialect is a fact; nor is it one which should surprise us. It has, however, been exaggerated. Some years back, it was stated in a popular work that every parish had its own form of speech. This statement seems to rest on some comparisons made between the islands as they were in the youth and as they were in the old age of the observer. The original notice, however, was merely that, in a mixed party, it was not difficult

to guess by his speech from what parish each member of the company came. Likely enough. In Italy, the land of dialects, the difference between the language of the town and that of the nearest village is sufficiently broad to have established the terms *urbana* and *rustica* to denote it. More than this, nearly two centuries ago, one of the earliest writers in the proper Bolognese, Lotto Lotti, states that, even in the town of Bologna itself, there were differences; that in the Strada Maggiore, on the Via Romana, there was an approach to the Romagnole; that between the Strada di San Stefano and the Strada di Saragozza, there was an approach to the Florentine; that about Porta di San Felice, Lombard elements showed themselves; and that at Porta di Sanvitale there was a dash of the Ferrarese; finally, that there were differences in the forms of speech belonging to the different trades. Upon this, Biondelli remarks that the same is the case now. Neither in Bologna, however, nor in the Channel Islands, does all this make a difference of dialect. Yet in Guernsey, at the present time, there is good authority for the statement that, between a townsman and a native of the Forest, there is still a perceptible difference.

For the dialect of Sark, we want specimens. Theoretically, it should be simply a sub-dialect of the Jersey: inasmuch as the settlement from Jersey, in Queen Elizabeth's time, of forty families, must, at least, have doubled the population. Yet the little known about it hardly justifies this view. One of the Sark peculiarities is to sound *v* as *b*, and say *beux* for *veux*. This, common enough in the south-western parts of France, *i.e.*, Bearn and Gascony, has yet to be noted as a prominent character in Jersey.

For the Alderney dialect, also, we want specimens; Alderney being the island wherein the influence of the English is at its maximum.

Neither have we much from Jersey, the following being a fair specimen of the little we have.

Au pi des murailles d'chu noble et vier châté,
Que d'pis tant d'années la mé vint bagné,
Et d'ioù qu' nou peut vaie, sus les côtes de France,
Des maisons, des moulins, et l'cliochi de Coutance;
Des sablions, des roquiers, de p'tits et d'grands batiaux,
Qui vont et qui vennent, qui remuent chu ches iaux;
Est un hâvre qui naguères, pouore, calme et tranquille,
Contenait trais batiaux touonés sus lus quilles,
Des moûonchiaux d'gallots et d'éculles de baînin,
Pus d'unne sale mare oué nageait du fretin,
Du vraic, unne vieille ancre, deux dranets et une sène,
Unne corde à siqui, des c'minsoles sans guènnes,
Siex cliavets à houmards, et quiques avirons,
Deux s'trais bijueuques qu' nou zappelait maisons;
Et d'zéfans crocheurs qui, manque de braies,
Se vautraient dans la vase, comme des bêtes à saie.
Mais d'pis qu' acheteurre nos Messieurs d'Zétats,
Baillent tant de leur goule, et font tant d'embarras,
E qu' nos savans Ministres, ov tout lus zesprit,
Ne disent quasi ren sur les lois de Gêri,
Et qui laissent tout couore, comme ava le russé,
Comme si zavaient peue seulement d'ouvri le bé,
Faut y s'étonner qu' les affaires vont de travers,
Et qu' nou s'en sé print ès pouores hîtriers,
Que ne pensaient guères au mitan d'lus travas,
D'avé ren à démêler ov Messieurs des Etats.
Autefais du mains, sus les vieilles hîtrières,
J' péquions tranquillement, comme faisaient nos grand'-pères, &c.

Almanach du Constitutionelle, 1840, *Grouvilliers*, 1837.

The following is a translation into modern French. Like those that follow, it has been made literal rather than idiomatic. In some cases, however, even this is impracticable; inasmuch as many of the insular glosses are wholly foreign to the cultivated language.

It may be added, that the orthography is not only (as we expect it to be), unfixed, but that it is varied. The present specimens, indeed, give three varieties of it.

In French.

Au pied des murailles de ce noble et vieux château,
Que depuis tant d'années la mer vient baigner,
Et d'où on peut voir sur les côtes de France,
Des maisons, des moulins, et le clocher de Coutances ;
Des sables, des rochers, de petits et de grands bateaux,
Qui vont et qui rionnent, qui remuent sur ces eaux ;
Est un hâvre qui naguère pur, calme et tranquille
Contenait trois bateaux . . . sus leurs quilles,
Des monceaux de caillous et d' écailles de (? baleine)
Plus d'une sale mare où nageait du fretin,
Du varech, une vieille ancre, deux filets et une seine,
Une corde à sécher, des camisoles sans gaînes,
Six (harpons ?) a homards, et quelques rames;
Deux ou trois bicoques qu' on appellait maisons,
Et des enfans crasseux qui, faute de culottes,
Se vautraient dans la vase; comme des bêtes à soie. (*cochons*)
Mais depuis qu' à cette heure nos Messieurs des Etats,
Donnent tant de leur gueule, et font tant d'embarras,
Et que nos savans Ministres, avec tout leur esprit,
Ne disent quasi rien sur les lois de Jersey,
Et qui laissent tout croire comme . . .
Comme s'ils avaient peu seulement d'ouvrir le bec
Faut y s'etonner que les affaires vont a travers
Et que nous nous en prenons aux pauvres huitriers
Qui ne pensaient guéres au milieu de leur travaux
D'avoir rien a démoler avec Messieurs des Etats
Autrefois du moins sus les vieilles huitrieres
Je pechais tranquillement comme faisaient nos grandpères, &c

In contrast to these short and fugitive pieces, Guernsey boasts a classical work—the Rimes Guernésiases—which common fame attributes, we believe justly, to Mr. George Metivier,—pre-eminently learned in the language of his native island as well as in that of other countries. His poems illustrate not only the language, but the habits and society of the true Norman portion of the island; and as they are accompanied by a glossary, which we hope may expand itself into a full and complete dictionary, they form the basis of all philological inquiry. As the following are free translations of well-known poems they are selected as specimens :

Jean Graïn d'orge.—John Barleycorn.

J'ai ouï qu'il y'avait dans l'orient
Treis rouais, du temps d' St. George,
Et q' châcun d'aeux fit un serment
D' mettre à mort Jean Graïn-d'orge.

D' leux grand' quérue i' font un rion
Pour l'enterraïr sons l' frie,—
Jean Graïn-d'orge, men vier garçon,
V' là ta course finie!

Pour tout chun'na l'printemps ram'nit,
La pllie et la rousâïe,—
Jean Graïn-d'orge ressuscitit,
L'etoun'ment d' la contrâïe.

Jour après jour, i' pousse, i' creît,
S'enfle, et n'est pus si tendre;
Sa tête s'couvre d'longs piquets,
Rangis pour le défendre.

L' soleil brûlant, qu'emplle nos sacs,
Fait jaûnir sen visage.
Les genouâïx gourds, la tête en bas,
Tout flit q' Jean est sus l'âge.

I' pallit, tremblle, et nou l'vét bien,
Sa forche se consume;
Mais des enn'mis du cher chrêquion,
L'iniquitaï s'allume.

Auve un grand faux,—j'terfis d'effré!—
Sa tchiesse i' l'ont copâïe;
I' l'ont houlaï dans leux tumbré,
Coum si ch' n'était qu'un plâïe!

Gav'laï dans l'aire insolemment,
Nou l' capuche une achie,
Et pîs au caoup du vent nou l'pend,—
Ah! qu' est' donc qui s'en s'cie?

I' font sa fosse,—ont-i' du sens ?—
Jusqu 'au bord l'iaue y brouc,
Et Jean Graïn-d'orge est flianqui d'dans,
Que l'bouan vieil fonce ou noue !

Etendu sus l' pavaï, l' maûfait,
Martyr de leux furie,
I' l' rémoûquaient dès q'i' mourtrait,
L' moindre signal de vie.

À la chaleur d'un faeu cruel
I' font fondre la mouelle,
Et suaïr les os du cher p'tit vieil,
Dont la barbe est si belle ;

Et enfin,—j'en sis tout ému,—
Ossi vrai qu' j' ai nom George,
Ten sang, Jean Graïn-d'orge, i l'ont bu,
Ten pur sang, Jean Graïn-d'orge !

The same in Modern French.

J'ai ouï qu'il y avait dans l'orient
Trois rois, du temps de St. George,
Et que chacun d'eux fît un serment
De mettre a mort Jean Grain-d'orge.

De leur grande charrue ils font un sillon
Pour l'enterrer sous le gazon,—
Jean Grain-d'orge, mon vieux garçon,
Voilà ta course finie !

Cependant le printemps ramenât,
La pluie et la rosée,—
Jean Grain-d'orge ressusçitât,
L'étonnement de la contrée.

Jour après jour, il pousse, il croît,
S'enfle, et n'est plus si tendre,
Sa tête se couvre de longs piquets,
Rangés pour le défendre.

Le soleil brûlant, qui remplit nos sacs,
Fait jaunir son visage,
Les genoux engourdis, la tête en bas,
Tout dit que Jean est sur l'âge.—(*Est devenu âgé.*)

In French.

Il pâlit, tremble, et on le voit bien,
Sa force se consume;
Mais des ennemis du cher chrétien,
L'iniquité s'allume.

Avec un grande faux,—je tressaillis d'effroi!—
Sa cuisse ils ont coupée;
Ils l'ont jettée dans leur tombereau,
Comme si ce n'était qu'un cochon!

Terrassé dans l'air insolemment,
On le rosse un pendant quelque temps,
Et depuis au coup du vent on le pend,—
Ah! qui est-ce donc qui s'en soucie?

Ils font sa fosse—ont-ils du sens?
Jusqu' au bord l'eau y flotte.
Et Jean Grain-d'orge est jetté dedans
Que le bon vieux enfonce ou nage.

Etendu sous l'pavé, le malheureux,
Martyr de leur furie,
Ils le remorquaient dès qu'il montrait
Le moindre signe de vie.

A la chaleur d'un feu cruel,
Ils font fondre la moëlle,
Et suer les os du cher petit vieux,
Dont la barbe est si belle.

Et enfin;—j'en suis tout ému—
Aussi vrai que j'ai nom George,
Ton sang, Jean Grain-d'orge, ils l'ont bu,
Ton pur sang, Jean Grain-d'orge.

L' Prisongniér Loyal. From Lovelace "to Althæa from prison."

A. D. 1648.

When Love with uncontroll'd wings
Hovers within my gates;
And my divine Althæa brings
To whisper at the gates.
When I lie tangled in her hair
And fettered by her eye,
The birds that wander in the air
Know no such liberty.

Quand l'tendre amour dans ma prison,
Malgré les tarouets, vole,
Qu'à travers les barres, en d'muchon,
Ten cher devis m' console,
Que j'sîs empliôqui dans tes ovaoux,
Et q'ten r'gard m'enhalôde,
Les mouissons n'sont pas si heûraoux,
Bien que j'seis sous custode!

Quand l'pur vin d'Bourdiaux, clinïre et fraix,
D'maïn en maïn fait la ronde,
Nos hauts fronts parfuméïs d'ieillets,
Nos cœurs au-d'ssus du monde,
J' cliûngeon l'ner chagrin et la sét
Dans l'jus qui les soulage—
L'païsson qui terjoûs noue et bét
N'est pas si libre, j'gage!

Sitôt que j'chante, à grand goulias,
Faisant la figue ès r'belles,
Charles, men rouai, des potentats
L' noble et gloriaeux modèle,
Sitot que j' révele ès échos
Tout l' bien que j'llî souhaite,
L'nord-est qui fait dansaïr les fliots
Est'-i' pus libre?—ah, miette!

Ch' n'ést pas les murs qui font l'donjon,
Ni les barriaux la cage;
L' cœur vrai, loyal, et sans soupçon,
En fait un hermitage:

Dans m'n ame, à l'envi, daeux biaux yûx
Dardent leux étincheltes—
L' séraphin, l' rossignol des ciûx,
N'est passi libre qu élle!

In French.

Quand le tendre âmour dans ma prison,
Malgré les verrous, vole,
Qu'a travers les barres, en cachette,
Ton cher visage me console,
Que je suis entortillé dans tes cheveux,
Et que ton regard m'empêtre,
Les oiseaux ne sont pas si heureux,
Bien je sois sous custode.

Quand le pur vin de Bordeaux, clair et frais,
De main en main fait la ronde,
Nos hauts fronts parfumés d'œillets,
Nos cœurs au dessus du monde,
Je plonge le noir chagrin et la soif
Dans le jus qui les soulage—
Le poisson qui tojours nage et boit
N'est pas si libre, je gage.

Sitôt que je chante, comme un grand bavard,
Faisant la figue aux rebelles,
Charles, mon roi, des potentats
Le noble et glorieux modèle,
Sitôt que je révèle aux echos
Tout le bien que je lui souhaite,
Le nord—est qui fait danser les flots
Est—il plus libre?—ah, non.

Ce ne sont pas les murs qui font le donjon,
Ni les barreaux la cage;
Le cœur vrai, loyal, et sans soupçon,
En fait un hermitage:
Dans mon âme a l'envie deux beaux yeux
Dardent leur étincelles—
Le séraphin, le rossignol des cieux,
N'est pas si libre qu' elle.

The following literary curiosity in Guernsey French, is an approximation to phonetic spelling on English principles. A translation into modern French follows.

Qui çhante qui vourdrá de belles verte prairie,
De montâwgnes et d'vallons, órnoy de flieurs des quans,
Et remplië de berbis, de vawk, et de ptie viaux ;
Qui tout ensemble fait un payzâwge mánifique.
Ma Mûze q'est ambisieuze de pliëre a un ami,
N'sé sént pôuit inspiroy à ràcontigh en vers
Toute çhez belles affaires là. A l'aspire plús-a-ków
A çhantigh d'un endré, qui p'têtre nay paw si bel,
A l'eil d'un pour pighzânt, ni pour sujet de vers,
Si biaux, et musical à toute sorte d'óreilles.
Salut donc, terres sterile ! là où il nie kray rien,
Paw seulement une p'tîte arbre, où poor p'tîte margeritte,
Pour rejouir les pâwsânt ! Torres sterile ! Salut !

* * * * *

Il semble òsin kiçhin nou vé des ptie moutons,
Et grande bêtes a kât-pee a majár la várdure,
Tândi q'les kóc-é-dâwk, les kànár et dindôns,
Suivis par leux fúmelles, et leux biaux p'tie poúâwchias,
Mange osin leux vitâilles qui trouve par les courtis.

* * * * *

Mais je kré karpresent, il est temps d'être sarieux,
Et de conclure mes vers d'une façon diffarante.
Chez pourki çhar ami, nè sé point affrontigh
A çhu q'jé dit en riânt, mais accepte les souhâits
Que j'fais bien sarieuzment et du fin-fons d'man cœur.
J espere que l'bouan succçay rira su tes desirs,
Et quand tu srâw lâwsigh des fatigues du coúmerçe,
Je souhaite bien kiçhin que tu trouve tes tout plaisirs
Auve tá çhere petite fâwm, et q'çhez plaisirs là dûre.
Que d'autre suive osin l'example que tu leux mourtre,
Et koùm tó quil emplië une partië d'leux richesse
A cultivigh la terre, là où jamais devant,
La kárrüe á etigh, ni la bêke du pighzant.
Epie il máritrôns koùm tu l'fais bien dayja,
Paw seulment boùan succçay,—mais los l'wânges de tout l'monde.

La Kahute d'Orni, Southampton.

In French.

Que chante qui voudra de belles vertes prairies,
De montagnes et de vallons, ornés de fleurs des champs,
Et remplis de brebis, de vaches, et de petits veaux;
Qui tout ensemble font un paysage magnifique.
Ma Muse qui est ambitieuse de plaire à un ami,
Ne se sent point inspirée a raconter en vers
Toutes ces belles affaires—là. Elle aspire plus encore
A chanter d'un endroit, qui peut-être n'est pas si beau
A l' œil d'un pauvre paysan, ni pour sujet de vers,
Si beau, et musical a toute sorte d'oréilles.
Salut donc, terres steriles, là où il n'y croît rien,
Pas seulement une petit arbre, ou pauvre petite marguerite
Pour rejouir les passants! Terres steriles! Salut.

* * * * *

Il semble aussi qu' ici on voit des petits moutons,
Et grandes bêtes a quatre pieds manger la verdure,
Tandis que la volaille, les canards et dindons,
Suivis par leur femelles et leur beaux petits poussins,
Mangent aussi leur nourriture qu' ils trouvent parmi les champs.

* * * * *

Mais je crois qu'à présent, il est temps d'être sérieux,
Et de conclure mes vers d'une façon différente.
C'est pourquoi cher ami, ne sois point fâché
De ce que je dis en riant, mais accepte les souhaits,
Que je fais bien sèrieusement et du vrai fond de mon cœur.
J'espère que le bon succès rira sur tes désirs,
Et quand tu seras las des fatigues du commerce,
Je souhaite bien qu' ici tu trouves tous plaisis
Avec ta chere petite femme, et que ces plaisirs—là durent.
Que d'autres suivent aussi l'example que tu leur montre,
Et comme toi qu' ils emploient une partie de leurs richesses
A cultiver la terre, là où jamais auparavant,
La charrue a été, ni la bêche du paysan.
Et puis ils mériteront comme tu le fais bien déja,
Non seulement bon succès;—mais les louanges de tout le monde.

These represent the dialects as they are now spoken. The following is the oldest Anglo-Norman of the Guernsey laws: the words in which they differ from the Anglo-Norman of England being in italics:—

Les Plez Capitaulx de la St. Michiel, tenus le ve *jour du moys de Octobre, l'an* 1534, *par Nicollas de Rosel, Lieutenant de James Guille, Baillif; presens à ceu James Le Feyvre, Henry Beauvoer, Nicollas Careye, James de Havillaunt, Thomas Devic, Pieres Martin, Thomas Henry, Johan Le Mesurier, et Johan Effart, Jurez.*

Item, que nulluy n'engrossira nulle marchandisse qui viendra dedens le pays et vitailles dedens aulcun navire, jusques à ceu que il esté iij jours au galley, et que *cheulx* qui ayront achaté la marchandisse en delivreront à chacun qui viendra pour en avoir au prix que il est aferé durant la deschargo, sur peynne de x livres toutes foyes et quanto, comme vitailles ou aultre choso qui seront profitables pour le bien commun.

Item, que nulluy n'entretiandra ne gardera que ung chien à sa messon sur peynne de v souls, synon à *cheulx* à qui il apartiendra.

Item, il a esté regardé par Justice que nulluy ne logera nul estrangier pour demeurer en l'isle sur peynne de lx souls, se che n'est pour son serviteur ou sa servante.

Item, chacun copera leurs fossés en droict, eulx qui sunt sur les chemyns par où nous ne poult passer de ung bort et de aultre.

Il est ordonné par Justice que les Connestables, chacun à leur paroesse, feront ajorner tous les paroessiens pour ramender les chemyns par où l'on passe dedens le jour de la St. Johan, et que ils seront ajornés par leurs Vintonniers, et en cas que il y ait aulcuns defaillans, il est regardé que les dits Vintonniers prendront de leurs biens à la somme de *chinq* soulz pour estre exposses à la reparácion des dits chemyns, et verront les Officiers du Roy voer executés les regards de Justice sur la peynne do *chent* soulz, tant du Procureur que du Controlle.

Il est regardé par Justice que nully n'aira plus do bestes que il aira terre à les nourir et garder honnestement, et les Officiers du Roy et les Connestables en ayront la surveue à chacune paroesse pour en faire inquisicion, et les Connestables viendront relater *cheulx* que ils ayront trouvé fautibles, chacun en leur paroesse, par devant Justice.

Les Plez Capitaulx d'après Noel, tenus le xvje *jour du moys de Janvier en l'an* 1535, *par Nicollas de Rossel, Lieutenant de James Guille, Baillif; presens, &c.*

Il est defendu que nully n'yra o vrec siés d'esy à la procheyne mareye devant la Chandeleur, sur la peine de dix livres.

Il est regardey que le seyl sera vendu viij . . . par toneo sur peine do *chent* soulx, et que le Prevost du Roy ou son debitey le verront distribueyr, et que s'il n'en veuillent baillier, *cheulx* qui en ont plus que il no leur en fault le vendront sur la peine dessus dito.—*From* "*Recueil d'Ordonnances de la Cour Royale de l'Isle de Guernesey. Rédigé sous l'Autorité de la dite Cour, par Robert Macculloch, Avocat.*"

The following is a sample of the Picard, one degree more distant than the Norman, given, for the sake of comparison, and in an approximation to phonetic spelling:—

KYO BATIS.—Hé, pèr Galanpoué, ètt vou da vou mouézon?

GALANPOUE.—K'è'ch kyi m'apel lô? Tièn, nondézeu, jé n'mé troup pouèn ch'é Kyô Batis. I n'é mi pôsib; ch'é ti, té vlô a Ammièn, ch'ét a pèugn si j'èn kroué méz yu.

K. B.—Oui, pèr Galanpoué, ch'é mi, ch'é bièn mi kyi vièn vou vir.

G.—Hèntt, mèn kyô fiu, hèntt—Bé a ti, tu vô t'afôlé!—Ha! kyé nondéboué! —I n'ô pouèn pran vizè a l'travèrs dé l'port, vlô sèn kapieu ènfonsè jusk a sèn mèntou—Bè a ti; nondézeu, tu vô rènversé l'tab pi ché gat. Ch'ét i k't'ô ènvi d'jué a katrabeuz?—Atèn èn môle ké jdéfik tèn kapieu.

K. B.—Ha! j'rèspir—jé kmènchouè a pèrd vèn, j'suflôkouè. Chô n'ô mi d'sèn d'fouèr dé port si bas èk chô.

G.—Kmèn k't'ô voulu èntré tou d'èn bondif konm chô?

K. B.—Ch'étouè pour vou bayé pu rad ènn bouènn pigne d'man—Ouy, ouy, ouy! Ké m'tèt al ét i dôreuz! Es s'èn en biyé kyi m'pouss.

G.—Ch'ké ch'é k'd'èt si gran! Asitt, mèn kyô fiu, asitt; tu vô prènu ènn gout, chô té rmétrô tèn kyeur.

K. B.—Jé m'su tou d'mènm jôlimèn ranbakyé m'tèt; chô mé nn'ô fouó vir pu d'trènu si kandèy! Ureuzmèn d'mèn kapieu; sèn chô, jé m'krévouè m'tête.

G.—Tèn pov kapieu! Kyé rènfonsmèn! Mé, ch'n'é rièn, kyô, ch'té prétrô l'mièn: tu mé l'rènvouérô pu tar. Chô n'mé jennrô pouèn, j'vièn d'm'èn fouèr fouèr èu èn trèk.

K. B.—Bièn ôblijè, pèr Galanpoué, chô srô pour èun eut foué. Bôyé, èl mièn il ét èn élastik, i gn'ô k'a l'èrdréché. Tné, pour m'èrmèt su sol, vèrsè'mm ènn kyot rènchad; chô m'frô du bièn tou d'suit. A vou santè, mèn digu Galanpoué.

G.—A l'tièn, mèn kyô fiu, a l'tièn—Té vlô, ch'é bèl é bèn, mé k'è'ch ki t'amèngn da nou pouéyi?

K. B.—Ch'é l'plézi d'vou vir; é pi, j'è seu k'ô n'vièndrouètté pouèn chl'énô ichi a Pari.

G.—E bièn, kyô, t'ô ma fikyèt bien foué dé vnir. Vô, tèn meudi Pari, ch'ét èn gyo d pouéyi, ôn iy é janmoué èn rpô, toutjour èdz avèntur, é pi èn tèntamar k'i gn'ô pouèn mouéyèn d'fremé séz yu! Ch'ét èn pouéyi ènpouézonnè pour mi.

K. B.—Ej voué, mèn brav Galanpoué, k'ô ll'avé mènjè a l'ognon ch'pouéyi lô.

G.—Ve tu ké ch'té dich eutré koz? jé m'foué viu, é pi chô kout kyèr d'alé t'vir tou'lz'an par lô. Mé puichk èt vlô, jé n'veu pouèn k'tu dich a Pari èk Galanpoué t'nèn veu, é pi k'i t'ô mal èrchu. Tu m'ô foué dé mizèr a l'dérèngn foué, mé l'plézi dé t'vir ènm foué oubliyé tou chô.

K. B.—Oz érouèt tor, Galanpoué, d'mèn voulouèr, kar jammoué j'n'è, eu l'èntènsion èd vou fouèr dé l'pèngn.

G.—Jé l'kroué, kyô, ch'é pour chô k'jé n'tèn veu pouèn. Mé, di'mm èn môlé, é tu vnu par èch tran d'plézi, pour vir èl fèt?

K. B.—Oui, pèr Galanpoué, j'è voulu prôfité dé ch'tran d'plézi. Alé, pour ès mèt èn *tran* da l'sézon ichi, fôt èt jôlimèn dispôzé.

G.—Kyô, j'té rkonnoué bièn lô, t'é toujour èn brav, é pi j'kroué k't'ô voulu t'fouèr pasé pour èn solda dé ch'*tran*.

K. B.—O voulé m'blagyé, per Galanpoué; èj voué k'ôz et su vou téran: ôsi j'bouès paviyon. Ej vièn pour k'ô m'kontèch tou ch'kyi s'é pâsè da l'vil èdpui kèkz énè.

G.—Chô srô aveu bièn du plézi; é pi j'té mérè vir èl fèt, é pi kouèr èj té montrérè ch'k'ôz avon d'nouvieu édpui k't'é parti.

K. B.—Mé, dizé dou, pèr Galanpoué, kmèn k'i vô nou vouézan?

G.—Is'port konm èn charm. I m'ô pronmi dé vnir apré l'grau mès. Mé, vlô l'eur kyi s'pas, é piské t'vlô, j'm'èn vô l'kyeur, i srô bièn kontèn dé t'vir; é pi i viendrô s'pronmné aveu nou.

K. B.—Ch'ét ènu bouènn pènsè k'ôz avé lô.

G.—Pèndan k'tu vô bouèr ènn kyot rènchurèt é t'érpôzé èn môlé, j'mèn vô kourir juska lô.

K. B.—Marché, mé surtou n'souéyé pouèn trô lon.

G.—Pour èk tu n't'ènnuich pouèn tan, j'm'èn vô aplé Vèrjini, a t'tièndrô konpèngni.

The beginning in ordinary French.

PETIT BAPTIST.—Hé, père Galampoix, êtes-vous dans votre maison?

GALAMPOIX.—Qu'est-ce qui m'appelle là? Tiens, non de zeu, je ne me trompe pas, c'est petit Baptiste. Il n'est pas possible; c'est toi, te voilà à Amiens, c'est à peine si j'en crois mes yeux.

P. B.—Oui, père Galampoix, c'est moi, c'est bien moi qui viens vous voir.

G.—Entre, mon petit fils, entre.—Gare à toi, tu vas te blesser!... ah! quel nondébois!—Il n'a pas pris garde à la traverse de la porte, voilà son chapeau enfoncé jusqu' à son menton.—Prends garde à toi, non de zeu, tu vas renverser la table, puis cette jatte. (C'est-il) Est-ce que tu as envie de jouer à Colin-maillard?—Attends un peu que je retire ton chapeau.

P. B.—Ah! je respire!—je commençais à perdre haleine, je suffoquais!—çà n'a pas de sens de faire des portes si basse que çà.

G.—Comment (que tu as) as tu voulu entrer tout d'un bond comme çà? &c.

Upon the names of the dukes enough has been said already. They are in no wise Norse. They are neither Merovingian, nor

Carlovingian, Frank—the Frank forms being Ludvig (Louis), Lhothair, Dagobert, Sigebert, Chilperic, Childebert, Pepin, Carl, &c., never William, Richard, Robert, or Henry. On the contrary, these last, are all either Goth or Vandal, and, in some cases, Spanish.

Of the local names in Normandy, so far as they are other than French, a good list is given in the introduction to Thorp's translation of Lappenberg's Conquest of England by the Normans. They are, as we expect, much disguised: thus *toft* becomes *tot*; and *fliot fleur*; as in *Yvetot* and *Harfleur*. The termination *-dal* = *dale* is common on the drainage of the Seine. But all these are German as well as Norse. Of the typical Norse form *-by* the few names in *-bœuf* are the only examples. These, like the rest, are local. In the Channel Islands (so far as we may hazard the assertion of a negative), none are found.

Lastly, comes the notice of the names of the islands themselves. They first appear in the Itinerary of Antoninus, as *Cæsarea*, and *Riduna*. That, word for word, *Cæsarea* is *Jersey*, is probable; and it is not impossible that *Riduna* is *Aurigny* or *Alderney*. But, on the other hand, it is hard to believe that the *-ey* in Guernse*y* is not the *-ey* in Jerse*y*, and that both are not the German word *ey* = *island*, as in Orkn-*ey*. That Jers-*ey* = *Grass Isle*, and Guerns-*ey* = *Green Isle*, is the suggestion of an excellent Norse scholar, and it is, to say the least, plausible. But how can this be reconciled with *Cæsarea?* Were the German names as old at the time of the Antonines, and was *Jersey*, or something like it, made into *Cæsarea*, upon the common principle of assimilation. All that can here be given is an indication of the difficulty. *Cæsarea* is almost certainly *Jersey*, and it is Latin. The *-sey* in Jerse*y* and Guernse*y* are almost certainly in the same category, and the *-ey* in Guernse*y* is German.

Two other names are mysterious: the Grand Sarazin, or the Tombeau du Grand Sarazin, and Les Saragouzais. How came

a Grand Saracen in Guernsey? What did the men of Saragossa do there? The ordinary notion concerning the latter is that, in either the expedition of Ivan de Galles, or the fleet which fought off the island in the reign of Edward III., there was something from Saragossa,—perhaps men, perhaps ships. Yet Saragossa is in Aragon; and, as Aragon lies inland, vessels and sailors from Aragon are very like shipwrecks on the coast of Bohemia. To a mere etymologist, the most remarkable thing connected with these names is the fact of their both beginning with something very like the preposition *sur—above,* and the likelihood of their meaning some place above some other place. On the other hand, it is a question upon which a mere etymologist can only venture a suggestion.

Such, however, is the etymological view. The historical one is based on one fact only; and it applies only to the term Saragouzais. This is the fact of the popular opinion connecting it with the events which took place, either in or off the island, during the reign of Edward III.; in one of which Spaniards and Italians are mixed up; Spain being a country which gives the name Saragossa. This belief, tradition, legend, or whatever we may choose to call it, is our primary datum; and, although it is by no means sufficient for historical evidence, is just strong enough to raise a presumption in favour of its being founded on fact. That *Sarazin* is *Saracen* can scarcely be called a tradition. It is simply an etymology.

Can the two names be connected? What is now laid before the reader is little more than the suggestion of a suggestion. Still, there is one history, at least, in which the names Sarazen and Saragouzais come together; and that in a manner which may possibly have repeated itself in Guernsey. In Guernsey, the soldiers connected with the name Saragouzais, are Spaniards and Genoese, the time being the latter half of the fourteenth century. In the history of Greece, during the same portion of the same century, there are political relations between certain

military adventurers from Catalonia and Arragon (of which Saragossa is a city), and certain Italians; certainly Florentines, but not improbably Genoese as well. The relations, however, in the quarter, are hostile. On the other hand, they had originally been friendly.

Such the generalities: viz. the existence of political relations between soldiers of the same date, in different parts of the world, in the Spanish portion of which the name Saragossa is a likely, and in the Italian portion of which the name Sarrazin is a real, fact. If Spaniards and Italians in Greece give the same names, at the same time, in such a way that they can be attributed to Spaniards and Italians in Guernsey, a presumption in favour of the common origin is, to say the least, suggested.

Now, in 1311, the formidable band of free lances, which is known in the history of Greece and the Crusades, as the Grand Catalan Company, consisting of Spaniards (chiefly but not exclusively from Catalonia), after having made themselves masters of the dukedom of Athens (founded by the Crusaders after the sack of Constantinople), finding themselves in a state of anarchy, put themselves under the suzerainty of their legitimate kings of the House of Arragon, of which they continued to be appanage, real or nominal, from 1326, until the union of crowns of Arragon and Castile. This gives us the name *Saragousse* as a probability; since, from that city many a name or title of these liegemen of Aragon may reasonably be presumed to have been taken.

On the other hand, about 1386, between these Catalans, and the Franks under Nerio Acciaiouli, a powerful Florentine, and Governor of Corinth, a war broke out concerning the disposal of a wealthy heiress, the daughter of Louis, Count of Salona. Nerio won, and he bestowed her hand on a relation of his own, Peter *Sarrasin*.

Such the small piece of outlying history which brings these two names together in Greece. It is not difficult to see how

the similar combinations might have brought them together in Guernsey. The time is the same for both, and the elements in way of geography and nationality are nearly the same.

Of purely popular legend there is, probably, more than has been either published or collected; purely popular legend meaning, not any indefinite superstition (of which there is more than enough), but special narratives connected with certain places, days, or objects. The Lives of the Saints, in a Roman Catholic country, would have given origin to several. The only one, however, in print, is the following from a Latin extract in Falle's History of Jersey. We may call it the Tale of Hambey. The legend is partly given in a former chapter.

In the island of Jersey lies a moor, or fen, which takes its name from that holy man St. Lawrence, and in this fen lay a huge serpent, which did great mischief to flocks and herds, and even to the men of the island. No one dared to attack, save only the Seigneur of Hambey. That brave knight undertook to rid the island of the pest; so he set forth in quest of the snake and took with him a single servant.

The knight of Hambey slew the serpent, and cut off its head. After that he undid his harness, and fell asleep. The wicked servant seeing this, thought that if he killed his master, and vaunted himself as the slayer of the dragon, he might woo the widow. All which he did. He murdered his master in his sleep, and then told his lady that the terrible serpent had destroyed her lord, but that he, the faithful servant, had killed the dragon. The knight, he added, had, with his last words, praised the valour and fidelity of his servant, and sent by him a message to his lady, enjoining her, as she loved his memory, to become the wife of so true a follower. So the wife gave hand to the knave; and they went together.

As the varlet was sleeping he was disturbed by a dream, and he cried out in his sleep, *Oh! wretch that I am; I have killed my master.*

This he did, night after night, till the lady suspected his crime and took him to trial, where he was condemned. Then, on the spot where her true husband was killed, she had him buried, and over his remains raised a stone, in loco conspicuo, quem nunc *Hogam Hambeyam* alias *Hagam Byam* vocitant. *Hoga* est pyramis obtusa e terrâ cujus modi Galli vocant *mont joyes*. The mound is now called the Hougue Bie. It is described, and the legend is alluded to in a previous chapter. (See page 120).

NOTE.

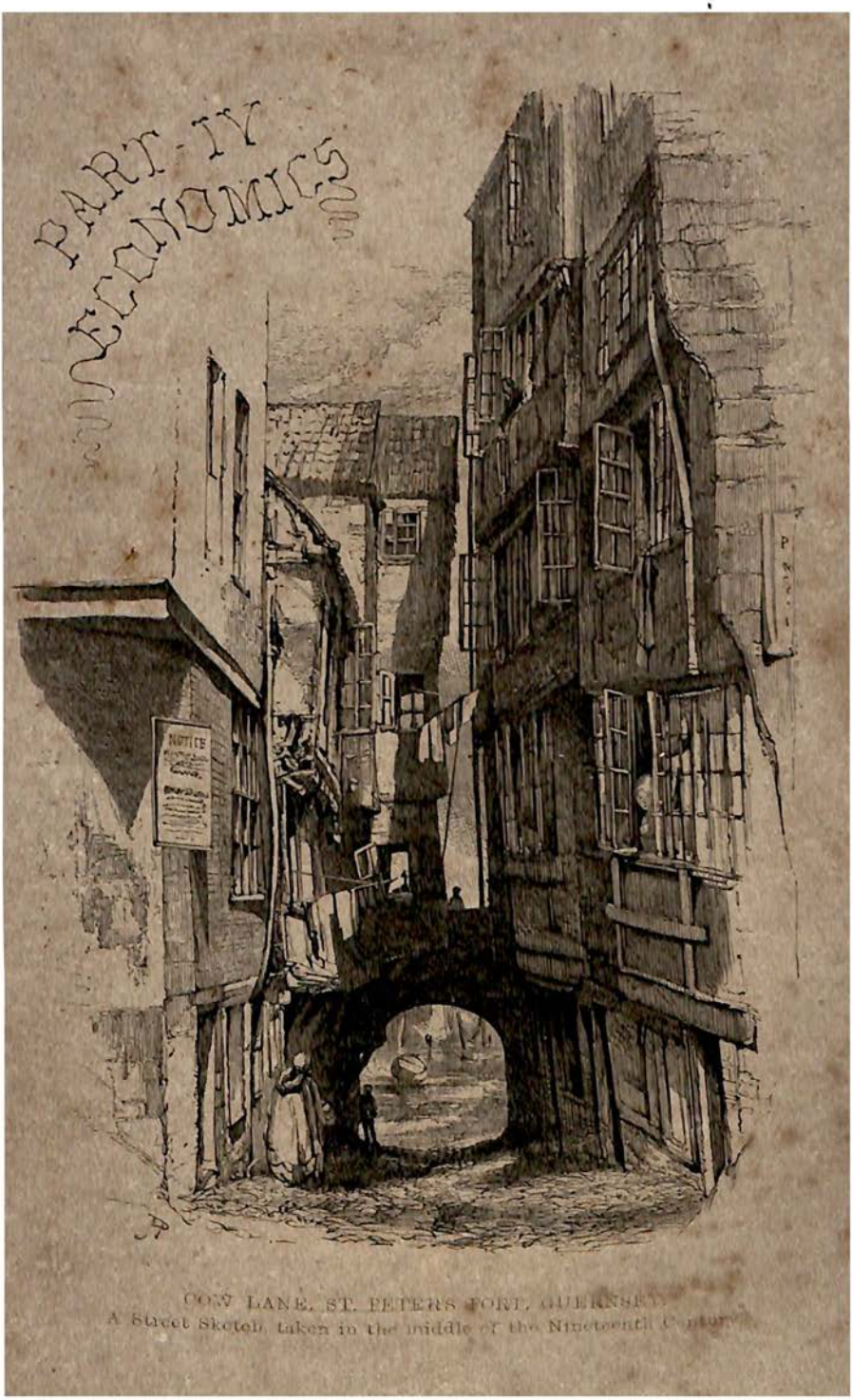
The statement found in more places than one, to the effect that there is cotemporary evidence to the outline of the Channel Island coast having been different to what it is at present has already been alluded to. It has yet to be produced; and, as far as it is safe to venture on a negative statement, it is non-existent.

What, however, is really curious, is the history of the physical condition of the islands in the following letter from Adam de Marisco, a Minorite, to Grostete, Bishop of Lincoln, concerning a *volcano*.

DOMINO LINCOLNIÆ FRATER.

Littera quam nostri gratia mihi misistis solatium plurimum præstitit, licet sicut scripsistis quædam contineret inconsolabili digna fletu. * * * Verum fateor quod cum præsentia conficerem quibus verbis conceptum spiritum vasti horroris exprimerem, penitus ignoravi. Quid sibi velit inauditum retro sæculis portentum his diebus famæ violentia vulgatum, quis conjectorum pensare valebit? videlicet quod apud insulam de Gerneshey, [quod] utrique regnorum Franciæ et Angliæ quasi conterminam, flammarum globi de gurgite marino frequentius in terrarum eminentias exiliro cernunter, etiam moles saxeas cum cæteris materiis irrepressibili conflagratione devorantes, et abactis habitatoribus, post finitas incinerationes, loco incendii armatorum cuneos congressibus bellicis atrocius confligentes et cessante conflictu ad ignotos secessus sese conferentes. Numquid igitur aliud agendum esse putabimus, nisi ut dum insaniunt reprobi electi lugeant, orantes hæc et alia sæculo insueta per superni clementem Domini sæculorum providentiam monstrata in bonum convertantur. Non hujus tam mirandæ novitatis me auctorem exhibeo sed recito quod me audiente retulit exceptione magna majus testimonium, &c.—*Monumenta Franciscana*, p. 151.

END OF PART THE THIRD.



COW LANE, ST. PETERS PORT, GUERNSEY.
A Street Sketch taken in the middle of the Nineteenth Century.

CHAPTER XX.

AGRICULTURE OF THE CHANNEL ISLANDS.

In treating of the economics of a district, the first place must be given to Agriculture. Under this general heading is included a considerable variety of detail, for whatever relates to the domesticated animals that live on the surface, as well as to the surface itself, must necessarily have reference to the natural and artificial vegetation of the island. Thus the nature of the soil, the cultivation of the land, dependent as it is on climate and soil, the condition of the stock, and even the nature of the holdings of land, are matters that are all mutually dependant on each other, and all belong to the agriculture of a district, and must be considered together.

The agriculture of the Channel Islands has been recently treated of in two memoirs; one rewarded by a prize, and the other "highly commended" by the Royal Agricultural Society of England.* It might seem, therefore, that there was little

* The state of agriculture of the island of Jersey was fully and admirably described by Mr. Quayle, in 1812, and his report was published by the Board of Agriculture in 1815. Much has since been changed, but it will be very long before this work becomes obsolete. The prize report by Mr C. P. Le Cornu is published in the twentieth volume of the Journal of the Royal Agricultural Society (1859). The "highly commended report" by Mr. F. F. Dally, was published separately, under the following title, "An Essay on the Agriculture of the Channel Islands, with Notes, Addenda, Tables, and an Appendix." Guernsey, S. Barbet, 8vo. pp. 87.

room for further remark on the subject; the more so, since the former (prize) report was written by a gentleman, who himself is a practical farmer on a large scale in Jersey, and the latter by one who has paid much attention to farming in Guernsey. As a subject, however, of vital importance, and one necessarily attracting the close attention of a large proportion of intelligent persons, both visitors and residents, a brief outline of the farming operations of the islands is indispensable. It will be convenient and consistent with the general plan of this work, to avoid, as much as possible, a mere repetition of what may be found elsewhere, and consider rather those branches of the subject which have been hitherto least attended to.

Soil and water being the two sources of nourishment of all vegetation, we may commence with a notice concerning these essential matters.

Soil and Subsoil.

The first fact that strikes the practical geologist as likely to influence these important elements of success in agriculture, is that the prevailing underlying rock is everywhere that variety of granite called hornblendic, and that veins as well as rock are largely characterised by magnesian minerals. That this is the case, and that magnesia is likely to exist somewhat in excess in the soil, is a matter of serious importance, and requires some preliminary consideration.

The subsoil being the result of its first decomposition, or preliminary disintegration, and thus absolutely dependant on the underlying rock, it is evident that until we know the contents of this rock, and the circumstances under which they are likely to be presented to the agriculturist, we cannot properly understand the resources of the soil. The following tabular statement will therefore be interesting and useful, and will show clearly the small proportion of lime and potash, especially of the latter important mineral, that can be depended on in syenitic

rocks and greenstones, and the absence of the phosphates, without which no soil can be regarded as naturally and permanently rich. It will also be seen by the table, that felspar is the richest of the component parts of syenitic rocks in potash and soda, and therefore the most valuable for agricultural purposes when decomposed. The preponderance of this mineral in a decomposing state, is a fact to be noticed in estimating the value of a soil.

Composition of various Hornblendic Rocks.

[Mean of several analyses.]

	Syenites.	Greenstones, (hornblende and felspar)	Black hornblende.	Flesh-coloured felspar.
Silica	69·91	54·86	47·70	66·60
Alumina	10·37	15·56	9·40	17·90
Lime	4·86	7·29	10·96	0·96
Magnesia	6·26	9·39	16·38	0·24
Potash and soda	4·55	6·83	——	12·84
Iron oxide	2·69	4·03	13·65	1·00
Manganese peroxide	0·07	0·11	0·38	0·40
Fluoric acid	0·50	0·75	0·32	——

Besides syenites, or hornblendic and felspathic rocks, and the contents of the various mineral veins traversing the rocks, there are, at intervals, sand-stones, clay-slate, and schists, and also in Jersey certain conglomerates, for the most part siliceous. The composition of these is not different from that of similar rocks elsewhere, and while some consist of almost pure silica, others are various compounds of silica with silicate of alumina, or common clay. Lime, magnesia, iron, and water, are present in almost all. In them, however, as in the porphyritic rocks, phosphorus is absent, and potash rare. Pure silica sand, and pure limestone sand, are found near the sea in some of the islands. Large veins of mica are found in Herm and Jersey.

The soil is derived from the subsoil, which, as we have seen,

consists of the underlying rock in a decomposed state. Although the degree of rapidity with which the rock undergoes disintegration and destruction from weathering, varies greatly in different localities, still in most parts of all the Channel Islands it may be regarded as extreme, compared at least with the same process in most other granite districts. In many places around the towns of St. Helier's and St. Peter's Port, there are great thicknesses of sand and gravel, the upper part of the decomposed granite being reduced to the state of sand, and the stony fragments still being left below only partially reduced. On the coast, and in the less cultivated parts of all the islands, the work of destruction may be watched, for the vast multitude of cracks and fractures in the granite, and its evidently rotten state near an exposed surface, afford abundant proof of the reality of the process. For the most part the soil thus obtained is light, though occasionally there is clay enough to alter its character. It abounds in some of the mineral substances that are needed for ensuring a good soil, but these are distributed with a certain amount of irregularity.

In Jersey the western end of the island consists of light sand, chiefly available for sheep or planting; but the ravines opening down towards the sea, possess deeper and richer soil, obtained from decomposed slates. Towards the coast there is much peat. Blown sea-sand covers the soil in the part called the Quenvais, and has produced a bare desert. Sometimes clay lies under the sand, and attempts have been made, with little success, to reclaim the land. By a free application of sea-weed, these lands are made to bear successive grain crops, whose average yield is extremely high. Much land around the town of St. Heliers consists of rich and valuable, because highly manured soil.

A large part of the south of Jersey has been rendered less fertile than it might otherwise have been, by incursions of the sea, such as those already alluded to in St. Brelade's parish. So lately as in 1811, the sea encroached seriously in Grouville

Bay, owing partly to the action of one of the small streams. The water of this stream, unable to reach the sea through the sand hills by which it was choked, and being obliged to find a passage, ultimately succeeded in partially undermining them. Besides the ordinary soil, there is in these districts a good deal of rich vegetable mould that has been long buried, and where efforts have been made for that purpose, such land has been reclaimed.

None of the other islands seem to have suffered by recent incursions of the sea. No doubt many of the detached rocks still above the action of the tidal wave, were formerly connected, and existed as islands, but such action is of a different kind. The depression that was long ago the cause of the concealment of the turf beds, has been succeeded by a slow and partial, but sensible elevation; but incursions of the sea, into lands protected by accidental or artificial means, happen occasionally in all countries.

In Guernsey as well as Jersey the soil is generally light, and often deep; and, although there are occasional beds of clay, the sandy loam usually passes down into angular gravel, the lower part of which is clearly seen to be weathered granite. For the most part the subsoil is excellent, but there exists, lying in patches at some depth, but quite near enough to be reached by the rootlets of plants, a peculiar, pale, reddish-yellow, sandy clay, into which, if the roots of a tree or shrub penetrate, they seem to be poisoned. There is nothing in the appearance or mechanical state of this material, to account for so curious a phenomenon. It is very spongy in texture, and almost melts in water. It has but little earthy smell, and contains much air, as becomes evident when placed in water. It is full of the small rootlets of plants, generally in a decayed or half rotten state.

When the roots of a plant or a tree come into the vicinity of this soil, they seem attracted by it, and penetrate it readily.

After a time the plant or tree looks sickly, and ultimately dies. The roots in such cases are always found completely rotten, within the range of the poisonous mineral. It is the opinion of the farmer, that if the soil is turned up by the plough, and mixed with the rest of the land, it will, in the course of fifteen or twenty years, sink down, and form a deposit, as before, at a certain level. This is not probable.

Analysis seems to yield us no information as to the cause of the mischief produced by this curious mineral. Neither does a microscopic examination of the grains of sand lead to any conclusion. It is chiefly a silicate of alumina, with some free silica, and a trace of iron.

The soil of Alderney is very much lighter and more open than that of any other of the islands. In some places it is deep, and of excellent quality; but in others it forms a thin coating. Even where the sand-stone prevails, there is no great difference, as the grains of sand are cemented by a felspathic, or clayey substance, which rapidly decomposes. In no other of the islands is the history of these granitic soils so completely laid bare by numerous open pits and cuttings, in some of which the foliated blocks of greenstone are actually seen in all stages of decomposition, while in others there is nothing but the resulting sand.

Sark exhibits but few peculiarities of soil, nor are there in that island so many illustrations of its mode of formation as in Alderney and Guernsey. The soil is moderately light, and requires sea-weed and other manuring. It yields good crops.

Herm is remarkable, as containing on its shores very large deposits of shell sand. These might, if needed, be taken to mix with the silica sands and clays of the other islands. The decomposition of the greenstones, however, seems in all the islands to yield sufficient alkaline earths and lime for the purposes of vegetation. Very little of Herm is under cultivation as arable land, but what is so treated yields fair crops.

Jethou, where not rocky, is cultivated, and has a good soil. The soils in all the small islands are derived from granites exclusively, and partake of all the properties thence resulting; but in Herm the rock decomposes with great rapidity in many places, and the mica veins are very large.

In all the underlying rocks of the various islands there would seem to be a total absence of phosphorus, without which the cultivation of food plants is impossible. Potash also is either present in small proportion, and in a form not readily separated. There does not seem to be any organic matter present except that derived from animal life now or recently at the surface. However rapidly, therefore, the soils obtained from these rocks become decomposed, and however well the resulting soil may look, there is clearly no natural and large supply of certain ingredients essential for food crops. All these must be supplied from without in the form of manure, either animal, vegetable, or mineral. The latter not being available, it results that without a large and constant supply of animal and vegetable manures, the soil of the islands could not be kept in such a state as to yield large crops of the most valuable kinds of vegetable produce.

It is clear, therefore, that in spite of all statements that have been made to the contrary, the soil in the islands cannot properly be regarded as naturally rich.* It has been made rich by its inhabitants, and is thus productive; but exhausting crops could not be taken from it anywhere for many years together, as in some countries, without the constant admixture of manures, which we may next allude to as an essential adjunct of the soil.

Under the term manures must be included mineral as well as animal and vegetable substances, although the former have hitherto been very sparingly applied in the islands.

* Rich soils contain from 3 to 10 per cent. of organic matter.

Manure.

The enrichment of the soil by ordinary manure, is limited in all the islands to the extent of farm operations carried on, and, till lately, few of the farmers had even taken the precaution of providing a tank to preserve the most valuable part of the heap. This is now more common; but it is still rare to pass a farm-yard in the country, in any of the islands, without being made sensible of this bad economy in a very disagreeble way. The town manure is not collected. The modern contrivances of prepared manure, such as guano and soluble phosphates, are not often employed, nor is there at present much inclination to introduce them.

Besides his own estate or domain, in the shape of *terra firma*, every islander has a common right of great value, lying on the shores of the barren sea, and belonging to the sea itself. It is true, that neither ox nor horse can browze on it, and yet it supplies provender for ox and horse as truly as if it were a field of clover or oats. This valuable and ever present resource is the *vraic*, or sea-weed, already more than once alluded to, and the gathering grounds of the vraic represent the common lands, possessing the additional advantage that they can never be exhausted.

But the value of this common right must not be over estimated. It is an adjunct only to the stable yard, and would of itself be insufficient to render the soil fertile. It has too much of some of the elements, and too little of others, which growing and ripening crops require :* but for certain purposes it has great

* An analysis of the various sea-weeds in common use for manure will be found in the chapter on the trade of the islands. The different kinds vary extremely in many important respects, but the ordinary mixed *vraic*, when collected, contains about 12½ per cent. of organic matter, less than 5 per cent. of soluble ash, and about 1 per cent. of insoluble ash; the rest is water. Of the soluble ash, at least 90 per cent. consists of alkalies expressed as chlorides, and rather more than 7 per cent. of potash.

value, and the day is far distant when it will be superseded by more costly and more elaborate, though more efficacious manures.

The weed, when cut, is either thickly spread on the land, and ploughed in fresh with a deep plough, or dried on the beach, and burnt on the cottagers' hearths as fuel; certainly not on account of the cheerful appearance of the fire, or its pleasant odour, but because the charred ash thus produced sells at sixpence per bushel for manure. The fire smoulders quietly; it is never extinguished, but constantly renewed, and the whitest of all smoke ascends night and day from the rude chimneys of these humble dwellings.

It is computed that about 30,000 loads of vraic of all kinds are obtained from Guernsey and Herm, and probably more than that quantity from Jersey.*

At the same time it should be remembered, that the vraic, like other things that are apparently got for nothing, is really bought at a price, though the exact details of its value are not very accessible. We neither know to what extent it improves the land, nor even the exact nature of the action it has upon it, which other manures would not induce. Least of all do we know the cost of collecting and carrying. We do know, however, that a day's labour, even of the poorest kind, is worth something, and that the vraic harvest employs many men for many days. How much cake or guano this labour would purchase, we cannot even guess at, and without being in possession of information on all these points, we should not be justified in asserting that vraic is not a cheap manure. That it suits the habits of the islanders and the tenure of the land is certain, but whether these are in themselves the best that might be, is a totally different question, and one that is not easy to decide. It is quite clear, that so abundant and convenient a resource is never likely to be abandoned.

* Economic Applications of Sea-Weed, by E. Stanford. Journal of Society of Arts, Vol. X., p. 187.

In describing Jersey and Guernsey, especial notice has been taken of the vast quantities of sea-weed that cover their shores; and the statistics of the subject will again come under consideration when speaking of the resources of the Channel Islands in another chapter. It will be sufficient to state here that the quantity of such material for improving the land that can be obtained from the shores, is, for all practical purposes, unlimited. In the two larger islands, also, the human population being extremely large in proportion to the area of cultivated land, the quantity of other kinds of manure is excessive, and for the most part good use is made of it.

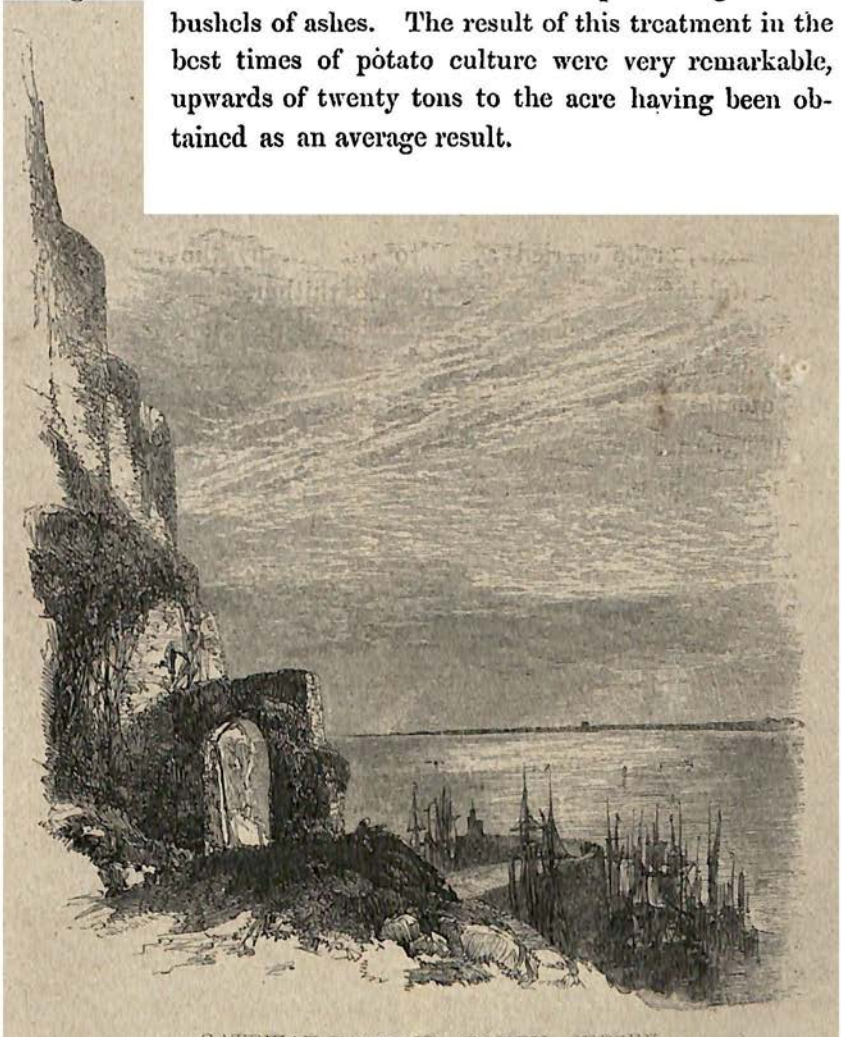
Of the smaller islands, Alderney has by far the largest population in proportion to its size; and the available manure of all kinds is therefore also greater. Thus it is easy there to obtain the means of dressing the land to any required extent; and large crops of potatoes and other food can be obtained from it in successive years without exhaustion. That this is a purely artificial result is, however, certain, as the natural soil, though certainly more open, is not richer there than in either of the other islands. The difference of soil in Alderney is due partly to a small difference in the nature of the granite itself, and partly to the presence of the sand-stone covering the granite in many places.

Sark is neither largely peopled, nor is it so well or abundantly supplied with sea-weed as either Guernsey or Jersey. The weed used is chiefly brought from Herm, and after being landed on the shore, has to be lifted to the top of the table land with much difficulty. Still no complaints are made of want of fertility, and some accounts by competent authorities refer to Sark as more fertile than Alderney.

Herm has always been remarkable for the quantity of weed it is enabled to supply, not only for its own cultivation, but for the use of the other islands. Its soil also is rich, and the limestone of its shelly sands contains a certain quantity of organic

as well as calcareous matter, the decomposition of which cannot fail to be serviceable.

On an average, about one acre in five of the larger islands, and nearly as much in Alderney and Sark, is manured each year with vraic, or raw sea-weed, or with the ashes obtained from burning the vraic, to the extent of ten loads of raw weed to the English acre. The load of fresh vraic is computed to give three bushels of ashes. The result of this treatment in the best times of potato culture were very remarkable, upwards of twenty tons to the acre having been obtained as an average result.



GATEWAY TO MONT ORGUEIL, JERSEY.
Looking down Gorey Harbour.

Water Supply.

The water supply of the islands is ultimately derived from the rain-fall, part of which is immediately re-evaporated; part is at once absorbed by vegetable and animal structures, and part runs off into the sea in rivulets and small streams. The rest sinks into the soil, and either occupies cavities in the rock or emerges in natural springs.

The population of the islands of Jersey and Guernsey is extremely large for the area inhabited, and the quantity of rain, though large, is by no means excessive. There can be no doubt that the direct employment of so large a proportion of the rain-fall as must either come into immediate use for purposes of animal life, or be carried away to the sea by the removal of accidental interruptions to its course thither,* must influence considerably many details of climate. Thus the air may be drier, and the rain-fall perhaps less than it formerly was, and as the quantity of water resting on the ground is now certainly smaller than it once was, so the destruction of the rocks, and the formation of new soil by decomposition, may go on more slowly.

Estimating the population of the two islands at 100,000, the area at 55,000 acres, and the mean annual rain-fall at 33 inches, the total quantity of rain falling may be taken as averaging about a hundred millions of gallons per diem, and this might well seem an ample supply. But when the necessary deductions are made for re-evaporation immediately after rain, for the swollen streams which rapidly carry back the storm waters to the sea, and the

* The islands being now generally cultivated, there are no swamps, and thus more water enters the sea than might otherwise do so. There are also now no forests to prevent evaporation, and keep the ground moist. In former times, before cultivation had commenced, a large part both of Jersey and Guernsey was, no doubt, covered with low wood, much of it evergreen; and the influence of this on evaporation would re-act on the climate.

direct absorption owing to the large quantity of vegetation that is packed on the cultivated ground, this amount will cease to appear so large. No doubt enough still remains to feed the springs in ordinary years, but a succession of several dry summers, such as those that took place previously to the autumn of 1859, is capable of so far drying up the springs that temporary inconvenience may be anticipated in many parts of the islands, should the same climatal conditions recur.

It is understood that in Jersey, in places where water was formerly obtained within six or eight yards from the surface, there is now a necessity for digging much deeper wells. So also where there are deeper sinkings, the water in wells near the town seems to be lowering, owing to the large quantity brought to the surface for the ever-increasing population. Generally, in all the islands, water is obtained by sinking either to the surface of the granite, or to some distance beneath the surface. When reached in such cases the rise is usually sudden, and sometimes considerable, but on the whole there seems a permanent diminution in the supply.*

It is not, however, very likely that, with the annual rain-fall that may be depended on, the number of days on which the rain falls during the year, the usually clouded state of the atmosphere, and the absence of rapid evaporation, there should ever arise any serious inconvenience from want of water. A large quantity might easily be stored, if necessary, even if the supply were likely to fail during temporary drought. It will indeed be quite evident, from an examination of the facts quoted in the chapter on climate, that there must always be an ample supply of surface water on all the islands, and that the supply must be pretty equally distributed.

* Water was reached by boring, in Jersey, previous to the erection of the citadel, the depth of the bore being 233 feet. It then rose 84 feet in the well. It is understood that the mean level of the water in the well is now much lower.

Drainage.

Artificial drainage is not much practised in the islands, a good natural drainage being carried on through the earth, preventing the accumulation of cold un-aerated pools at such depths as can be reached by the roots of growing crops. In Sark, this natural drainage was found so complete that, some years ago, a level connected with mining operations then going on, and opening out on the Port du Moulin, on the side of the island towards Guernsey, was found to remove the water from a well in D'Ixcart Bay, on the other side of the island. Although, however, for the most part the ground and subsoil are not too moist, and there is little cold stiff clay, systematic draining might be carried on with advantage in some places.

Irrigation.

Irrigation has been carried on from time immemorial, both in Jersey and Guernsey. This work is performed in the simplest manner. The slope of a hill, on each side, is first a little pared down, and on one side, or both, is generally found the stone required to proceed. The principal drains are rarely of very careful construction. Trenches are cut along the hill side, at the highest level at which the water comes in, and these are partly filled with blocks of stone, covered with smaller stones and gravel. The water instead of being allowed to run through the bottom of the valley in a swamp, is diverted and carried along the hill side in these trenches. From the principal trench part of the water is let down at pleasure into parallel rills, at successively lower levels, till it ultimately escapes, or is all used. Water rights in Jersey and Guernsey are of great value, and are carefully watched and preserved. The rights often extend over several estates, each estate claiming a certain number of days' irrigation. The water meadows are only applied to the feed of horned cattle and for hay.

Holdings of Land and Enclosures.

The condition of agriculture in all countries is greatly influenced by the nature of the holdings. Where the land is held in large properties, it is likely to have the benefit of capital; and improvements will be introduced with system and energy. When it is much subdivided and the operation of the laws and customs is such as to produce division rather than accumulation, there is not often much money in the hands of the farmer, and all changes are introduced slowly and with difficulty.

In all the Channel Islands, the land is held in very small parcels, the usual size of farms in Jersey ranging from five to twenty English acres, while a very large number are even less than five. In Guernsey, they also range between five and twenty-five acres, there being less than a hundred farms in either island that exceed twenty-five acres; and of these, only about half a dozen in Jersey exceed fifty acres.

As a result of the smallness of the properties, there are very numerous territorial divisions,—chiefly hedges, ramparts of earth, and rows of trees. The roads, otherwise good, greatly suffer from a consequent absence of sufficient ventilation; and although the trees are not now so numerous as formerly, it is impossible to overlook the country from any of the little eminences that rise above the tree tops without being struck by the appearance of large tracts concealed by low wood. This is, however, only the case in Jersey.

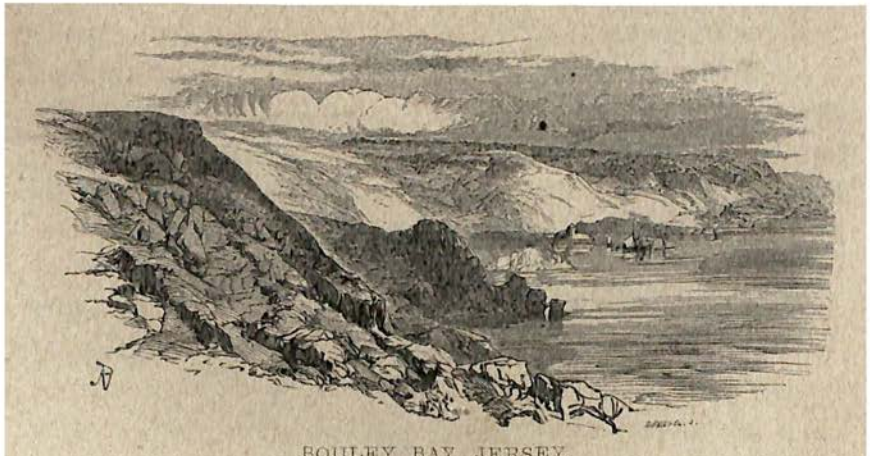
In Guernsey, the hedges are less solid, and are often replaced by stone walls extremely well put together. In Alderney, there are no hedges; and, in Sark, the hedges and fences separate the roads from the fields, but do not often divide the properties from each other.

Land is not very often let on lease in either of the islands, and the leasehold tenure is exceedingly bad, owing to the law of succession. Where it can be let, however, land generally fetches

fair prices, and often very large amounts are paid near the towns. Thus, in the neighbourhood of St. Helier's, in Jersey, there are garden lands that command as much as twelve pounds sterling per English acre, but the quantity obtainable in one piece is always very small.

Agriculture in Jersey, and also in Guernsey, is of very ancient date, for we find records of the time of Edward the Sixth, from which it is clear that the success attending the cultivation of land was then sufficiently great to make even such small portions as the tenth and twelfth parts of the tithes payable to the church matters of importance.

After the time of Charles the First, the islanders in Jersey replaced much of their arable land by orchards. These have since, especially of late years, been re-converted. The cultivation of grain crops has long ceased to be as important in the islands as that of root crops. In this respect, however, the islands differ; the cultivation of carrots, parsnips, &c., in Guernsey being greater in proportion than in Jersey.



BOULEY BAY, JERSEY.
Seen from l'Etacquerel.

Crops.

The distribution of a farm of average extent in Jersey is as follows:—Hay and pasture, about one-half; wheat, about one-sixth; turnips and potatoes, about one-tenth; and the remainder equally divided among mangold, parsnip, and carrot. The wheat is sown between the middle of December and the middle of January, the land being manured for that purpose with sea-weed ashes. The parsnip and potato sowing follow, the deep-trenching plough being used previously, turning up a thickness of a foot of subsoil. The mangold and carrot follow in April, and the turnip somewhat later. Guernsey does not differ greatly from Jersey in the rotation and proportion of crops.

The produce of land in all crops is very high. Wheat in the higher and colder parishes, and in good soil, has yielded between fifty and sixty bushels per English acre, the average of the islands being upwards of thirty. The average of England is stated at only twenty-four; but it must be remembered that the style of husbandry adapted to very small farms always produces a large, if not economical, yield; and the land under wheat cultivation, in all the islands, is confined to picked fields. The soil also, with the manure always at hand, contains the ingredients required for corn crops; and its mechanical condition is not unfavourable.

Land is very rarely allowed to lie idle in any of the islands. If let at all, it commands a high rent; but leases, in the proper sense of the word, are not known. Owing to the mildness of the climate, sowing may be postponed or hastened almost at pleasure, for there is little danger of early frosts in autumn or late frosts in spring; and the sun seldom has so much power as to burn up anything exposed to its influence. Birds and insects are alternately destroyed and protected, as the farmer believes that he suffers more from the depredations of the birds on the seeds and fruit or gains by their devouring grubs and insects.

The hay crops of the islands are good, but the amount is hardly equal to the demand. Three and a-half tons to the British acre is not considered a large yield in a fair year; but, for some years past, the seasons have not been favourable. Parsnips, which are greatly cultivated, will yield upwards of twenty tons per acre, and turnips and mangold wurzel much more. Beet-root yields large crops. Potatoes have yielded an average of fourteen tons per acre; but since the disease, which has greatly affected the islands, the results of cultivation have not been so favourable, and less ground than formerly is occupied by them. In the year 1839, upwards of a quarter of a million of bushels of potatoes were exported from Guernsey, but, for some years past, it has been necessary to import largely from France. During the last season, however (1861), owing to the severity of the winter and lateness of the spring in England, and the mildness of the climate in the islands, a large quantity of early potatoes was exported, realising enormous profit.

The farms of Alderney are small; and the land is divided into very long narrow strips. The bad farming of one individual is thus spread as widely as possible; and as there are hardly any enclosures, the evil is almost without remedy. Excellent root crops of all kinds are obtained, but the ground is choked with weeds.

The processes of farming are very old fashioned; and owing to a bad habit of leaving the crops till over-ripe, large quantities are shed on the fields. After an unusually fine autumn in 1860, alternating with rain during the equinox, followed by warm growing weather, the waste seed was observed to have grown and acquired considerable height in the middle of October, so that the stubble field of the year passing away was actually growing a crop without being prepared or dressed.

Little novelty has been introduced into the old farming customs of the island; but it may be worth stating that the sugar grass, or *sorgho*, has been cultivated with success as an

experimental crop, and that the Chinese yam comes to perfection, though not as an economical product.

It may be mentioned here that a particular kind of cabbage (*choux-cavalier*, or great cow-cabbage) is cultivated both in Jersey and Guernsey, but chiefly in the former island. The stalk of this plant attains almost the dimensions of the trunk of a tree. Stalks, perfectly straight and hard, are frequently obtained upwards of ten feet in length; and Mr. S. Curtis describes one as much as sixteen feet long. The leaves of these cabbages are constantly stripped as they become large, either for feeding cattle or packing butter; and the plants are left growing with a small crown at the top like palm trees. The stalks are ultimately taken up, and are serviceable either for palisades or pea sticks, the stouter ones serving to cut up into walking sticks.

Most English edible-vegetables of the common kind are grown in all the islands extremely well. The tomato ripens almost as in France. Cucumbers and melons, and all kinds of vegetable marrow and pompkin, grow without difficulty in great abundance in the open ground.

The treatment of the land nearly corresponds to that usually adopted in England; but there are certain differences not unimportant. Fallows are unknown; and the general system of husbandry corresponds closely to that carried on by the spade elsewhere. Of agricultural implements, many are old fashioned and clumsy, without redeeming qualities, but some are not only ancient, but interesting in the mode of their application, and are believed to be well adapted to the general conditions of the island. The great trenching plough is one of these. It is a very large plough, drawn by four, six, or eight horses, according to the depth desired, and turns over from ten to eighteen inches of clean soil. It takes a wide furrow (from eleven to thirteen inches), so that two acres or more may be turned up in a day; and it is considered to move and turn the whole soil. It is used only occasionally; and the work is generally performed by the

joint stock labour of all the farmers of a neighbourhood, who bring their teams to assist each other.

Different and opposite views have been entertained concerning the economy, or otherwise, of this implement. That it may occasionally dig much deeper than is desirable, and bring up soil which is injurious, would seem not unlikely; but with proper management and a knowledge of the district, it seems to suit lands that have a good depth of soil, and then serves to compress three or more ploughings and harrowings into two, effecting not only a great saving of labour, but being equivalent to a whole season's fallow.

The land is often left by the farmer in a very dirty state. Weeds of all kinds grow with great rapidity during the whole year; and the methods of weeding adopted successfully in England are found inapplicable where the air and earth are so constantly moist. Weeding is commonly done by hand with a small weeder, and both men and women kneel to their work, taking out one weed at a time. The work is thus exceedingly laborious, tedious, and costly.

Returning now to the subject of the soil of the Channel Islands generally, and looking at its value as compared with rich arable lands elsewhere, and its influence on the nature and yield of the various crops grown upon it, we must revert to the fact already stated, that it is not naturally rich. Owing to the general absence of phosphorus and the comparatively small per centage of potash present in the soil, it really possesses no extraordinary inherent value, and although much may have been said, with perfect truth, of the great value of the land and the excellent crops raised, these are the result of good management, of the presence of a large population of men and animals, returning to the soil all, or more than all, that has been extracted, and of the excellent and moderate climate which the islands enjoy. The produce per acre, whether of hay or corn, although large, is fully equalled elsewhere, while the constant repetition

of the same crop on the same soil without manure, which, in some naturally rich soils has been carried on with impunity for centuries, would certainly, in a very few years, exhaust the richest district in the finest part of the most fertile of the islands.*

We may here be allowed to suggest a distinction between fertile soils and rich soils,—the former, rather than the latter, being the condition characteristic of the Channel Islands generally. The soil is rarely rich, but it generally bears good crops. It must also be remembered that cultivation on a small scale always yields a better result per acre than when large properties are held in one or a few hands. Two half acres will thus yield more than one acre; but still the average production from any of the islands does not appear to equal that of an equal area of rich lands in England, and perhaps does not at all exceed that of average land elsewhere under good cultivation.

* It is no doubt perfectly true, that the produce of much of the best land in the principal islands is so large as to command very high rents; but this is the result of local circumstances, and is quite independent of its intrinsic value. The vicinity of a town affords unusual means of obtaining manure, and the value of all produce is enhanced by the large demand of a town population.

THE BARBICAN, CASTLE CORNET, GUERNSEY.

Stock.

The breed of horned cattle in the islands has long been known, and is in many respects remarkable. The important peculiarities are the small size and delicate frame of the animals; the large quantity and rich quality of the milk they yield; and the yellowness of the fat and of the butter made from the milk. The first result may, no doubt, have been produced by the habit of breeding in and in, which has long since been carried to such an extent that each island has its own breed, which may not be mixed on any consideration whatever. Perhaps the same cause, combined with the practice of tethering, the pampering with various kinds of food, and the climate, may be sufficient to account for the other peculiarities also. Although very small, many of the cows are remarkable for symmetry; and they rarely show vicious temper. They have a fine-curved taper horn, a slender nose, a fine skin, and deer-like form.

Of the different island breeds, the Alderney is the smallest and most delicate, and the Jersey is somewhat larger, but not very different. The Guernsey cattle are larger-boned, taller, and stouter in all respects, and have a less fine coat. They are not, however, less valued as milkers, and have probably been improved by some foreign stock, although the laws against the admission of horned cattle from the adjacent islands are, in some respect, even more severe than in Jersey.

The colour of the coat is very various, being commonly red, red and white, grey and white or cream coloured, but there are good beasts of black, and black and white colour, with a dingy ridge down the back.

All the cattle are yellow round the eyes and within the ears, and this peculiar tendency, it has been already remarked, is accompanied by a similar colour of the butter made from their milk, and of their fat when killed.

The cause of this peculiarity of colour, has been an object of

much unlearned and learned speculation. It is evident that the milk is not the only secretion of a yellow colour, for in addition to the eyes and ears being tinted, it is one of the peculiarities of the best animals that there is a yellow tinge at the root of the tail. It has been suggested that the colour is derived from bile, but yellowness is not the essential character of that secretion. Its properties are to be bitter, carbonized, and to perform certain functions in the animal economy. Its active principle (*cholesterene*) is indeed white. Colourless bile is possible, and so, beyond a doubt, is yellowness without bile. But that the colouring matter of the milk and tissues of the Channel Islands' cow may also be the colouring matter of the bile, is an hypothesis which no physiologist would condemn; so is the doctrine that the near vicinity of the sea may supply an excess of soda in the grass, and that the practice of closely tethering, by limiting the amount of exercise, may engender a tendency to something akin to bile, if not bile itself, to be in excess.

The large yield of milk from the island cows and the richness of the milk for butter are well known. Extreme cases show that from sixteen to seventeen pounds per week of butter have been made from the milk of one cow; but the average annual yield of a well-conducted dairy farm, though not so startling at first sight, affords a means of estimating the produce far more instructive. It is stated by Mr. F. Carey, of Woodlands, Guernsey, that the average annual produce of five cows on his land has been 1,680 lbs. of butter and 13,760 quarts of butter-milk. The former is worth fully one hundred pounds sterling, and the latter nearly fifteen pounds. These cattle were fed in the ordinary way, and milked three times a day. Each cow requires about one and three-quarters English acres of grass land, and is fed during winter, from the beginning of November, on mangold wurzel, turnips, parsnips, and hay.

Good cheese can be made from the milk, but it is not manufactured for sale.

The breed of sheep in the islands offers little worthy of remark. The animals are for the most part small, poor, of bad shapes, with indifferent fleeces, and coarse boned. That they are capable of great improvement, with care, is however quite certain. The pigs are without special interest, although in Jersey much improvement has recently taken place in the breeds.

Of horses, there is nothing important in the various breeds. Those of Jersey were improved about the beginning of this century, by the admixture of blood from some Cossack horses, landed with a body of Russians in 1800. The result has been the production of a hardy and hard working animal, which for want of attention is now deteriorating. Within the last few years, both in Jersey and Guernsey, more attention has been directed to breeding, and several good stallions have been introduced. Useful animals may be obtained in the principal islands at moderate prices.*

The donkeys are of the ordinary English breeds, and do not exhibit any peculiarities. They are not very common.

Of poultry there are few curious varieties, the common fowls being of mongrel breeds. They lay tolerably well in all the islands, and in sheltered and warm spots, though the proportion of eggs is not so great as in France. Each island exhibits some slight varieties. Geese are not very common, and turkeys are extremely rare.

* To Mr. Smith, for some time resident in Guernsey, and better known as the first introducer of the screw propeller principle in steam navigation, than for his agricultural proceedings, the island of Guernsey is indebted for some capital stock, both in horses and sheep. A few such intelligent breeders would greatly improve the islands in these respects.

CHAPTER XXI.

HORTICULTURE.

From the cultivation of the fields, we proceed to consider that of gardens. These are of two kinds, either for pleasure or profit, and both admit of a good deal of remark in special reference to the Channel Islands. The climate of the islands is perhaps even more clearly indicated by an account of what has been done with care and knowledge, in the way of introducing, and successfully cultivating, the finer kinds of fruit and certain foreign plants, than by a mere notice of the routine operations of agriculture, and a comparison of two things so different as farm cultivation and crops in a large and small island.

The Fruit Garden.

Most of the fruits cultivated in England, whether in the open air or under glass, or by forcing, are also cultivated more readily, with greater economy, and with at least equal results as to flavour, both in Jersey and Guernsey. On the whole, the aspect of Jersey being more south, is more favourable for fruit than that of Guernsey, and the more clouded atmosphere of the latter island is another reason why the success of cultivation in the open air is less marked. The equable climate, and the absence of chill at night, are, however, redeeming points, and the ripening of fruits there also is regarded as both successful and economical. Rare and valuable fruits, such as the pine, are not cultivated, but there seems no reason why they should not succeed with proper management and artificial heat. The guava has been ripened in Guernsey, and probably many other tropical fruits might be cultivated without much difficulty in houses. There is, doubtless, in all the islands, and especially in Guernsey, an absence of sun heat, and of the direct action of the sun's rays in summer, which must have its effect, and a remarkable prevalence of cold, dry, east wind in late spring, retarding vegetation. Owing also to the rain and damp, the trees suffer from mildew and blight, as well as from various aphides.

The results of cultivation are, notwithstanding, eminently favourable; and although the light-rays do not all penetrate the clouds, the heat and actinic rays seem to be much more successful. However this may be, it is a matter of fact, that almost all garden produce ripens sooner in the islands, than either on the nearest French land, or in England, so that the English market is supplied from them several days earlier than from any other source.

The difference of ripening under glass between Guernsey and Penzance, has not been accurately determined; but between the islands and places a little north of London, the comparison is

unmistakeably in favour of the former, and the fruits cultivated in houses are ready very much earlier. Thus the earliest apricot in Guernsey, in 1861, was ripened by the 24th of June, and near London not before the 9th July. The "red nutmeg," the earliest peach, was a week earlier, and nectarines of the same kind were from sixteen to nineteen days behind. This observation is confirmed by a careful comparison of the periods of bringing the fruit to the table, or to market, during several successful seasons, made by competent authorities.

The Vine.—Many varieties of the vine are known in the islands, but the bulk of the crop is every where the black Hamburgh. It grows freely, of fair colour and rich flavour. The fruit hardly ever ripens in the open air, but the cultivation is almost entirely in houses without heat. With heat it ripens well in May. For earlier produce the supply hardly competes with England; but from May till August very large quantities are sent. Without heat, ripening commences early in August, and lasts till the end of September. It is only within ten years that grapes have been largely exported from Guernsey. The supplies now sent to the London market exceed nine tons per annum, and have steadily increased since 1855, when they did not exceed two and three quarters tons. The export from Jersey is more than double. The cultivation in Jersey is on a scale which deserves to be called gigantic.

The white kinds of grape are declining in favour. Some are unprofitable for want of weight, and others, as the muscats, are objected to, as requiring artificial heat and separate houses. The muscadine or Chasselas varieties, are too thin-skinned to bear carriage, though they are easy to grow.

The number of vineries, both in Jersey and Guernsey, is extremely large, in proportion to the size of the islands. In Jersey, there is an enormous range of houses at Goose Green, between St. Helier and St. Aubin's. These houses alone are said to ripen annually for the market many tons weight of valu-

able fruit. In both islands, difference in exposure produces a great difference in the time of ripening.

Peach.—Under this name we include also the nectarine. The absence of autumn heat, and the absence also of sufficient care in the culture, have hitherto resulted in a want of any marked success in reference to its cultivation in the open air. In houses, however, the case is very different. The sorts cultivated in that open air are only those of the mid season, such as *Royal George, red Magdalene,* and *grosse mignonne;* but the newer kinds, though admirably adapted for general cultivation, are unknown. Of nectarines, only the white variety is commonly seen, and much of the soil is ill adapted for this fruit. There is no doubt that the islands are capable of great improvement in the management of this fine fruit.

Apricot.—Wet autumns, and cold summers, do not agree with this fruit, and the out-of-door crops are generally very scanty. The common kinds ripened in France are only fit for preserves, and these are tender sorts not fitted for the climate of the islands.

Plum.—The finer kinds are rare, and the newer and choice American plums have not yet been introduced. The climate would seem, however, well adapted to this fruit, and it would amply repay any speculative grower. The common kinds, such as *Washington, magnum bonum,* and *Perdrigon,* are very productive, and show what might be done with proper care.

Cherry.—The *Mayduke* and *Morello* are cultivated, with a few others, but generally there is little care taken in the management of this fruit, although in certain parts of the islands it would probably succeed well.

Fig.—The Turkey fig(?) (dark purple) is cultivated with great success, both as a standard, and trained on espaliers, in many parts of Guernsey. The fruit is fine, and ripens perfectly in ordinary summers. A white flesh fig is also known, but the flavour is inferior.

Mulberry.—There are many trees in the islands, and they sometimes ripen well, but the fruit is not usually equal to that grown in England. There is nothing remarkable in the mode of growth.

Medlar.—This is not often successful; the fruit ripens badly, and hardly repays cultivation.

Filberd.—Few nuts of any kind are obtained in the islands. The trees are generally badly managed, and allowed to grow too high and too thick. They rarely bear much fruit, but there seems no reason why they should not succeed better if properly cultivated.

Orange.—The orange tree grows freely in sheltered situations, and ripens its fruit in the open air, when trained against good south walls. There are several trees in Guernsey that yield large crops. The fruit is without much flavour, and generally without sweetness, though it is well adapted for marmalade, and grows to a large size. The number of fruit on the older trees is very remarkable. Few things are more remarkable than the appearance of these trees, in the depth of winter, without any shelter whatever, and entirely covered with golden fruit. They will be alluded to again as objects of interest in the flower garden. Several lemon trees are also exposed through the winter.

Apple.—We have left till the last the consideration of the two most important and best cultivated fruits of the islands, the apple and pear. The former has long been an object of great attention in Jersey, where, as in Normandy, cider is a common drink. It is less abundant in Guernsey, though there also it is used in the manufacture of cider. It has been comparatively neglected of late in Jersey, owing to a change in cultivation. The pear is very largely cultivated for the market both in Jersey and Guernsey.

In Jersey, the number of cultivated varieties of apple is large, and the management of the grafts very careful. The names of fifty-seven kinds have been kindly communicated by Mrs. Le

Couteur, who has carefully figured and described them all. Many of them are known in England, and also cultivated in Guernsey; but others are quite peculiar to the islands. The reinettes (or *rennets*) are a large group, all good, and some very handsome. The pippins are still more numerous. Several varieties of pearmain, and a number of codlins are familiar names, and yield good fruit. The *romeril* is considered a good kind, but the *coccagee* carries off the palm for cider. Little cider, however, is now made, and the export, which was once an important article of trade, has fallen off considerably.

In Guernsey, the cultivation of the apple has never attained the importance that it did in Jersey; but attention has been paid to it of late years, several of the fine American sorts having been introduced.

To Mr. Naut, a nurseryman in Guernsey, the author is indebted for a very complete list of the kinds cultivated in that island. No less than sixty English varieties, and twenty-five French, are in this list; but the identification is not very complete, and the names used are often by no means correct. As many as fifty-four named sorts are known in Guernsey, as having been grown in the island, in the same family, for several generations. The names of the sorts in Jersey, Guernsey, France, and England, are so little alike that an enumeration could only lead to confusion.

Although apples are cultivated extensively, the crop is by no means certain. A thick fog, or white frost, will sometimes not only destroy the hopes of a season, but check the fruiting of the trees for several years. Generally, good and bad years alternate, but as much as four successive large crops have been obtained. The value of the crop varies enormously, the fruit sometimes selling at seven shillings per quarter (about four cwt., or forty-two bushels of twenty-six gallons), the same quantity in other years being worth twenty-three shillings.

Pears.—Both Jersey and Guernsey are remarkably successful

in, and have gained much reputation for, the culture of pears, whose export has long been a matter of considerable profit. As many as fifty-nine named varieties are cultivated in Jersey, some of which are very excellent, and a few of them keep well and range over many months for table use. Many *bergamottes, doyennes, beurrés,* and others known familiarly in England, are very successful; but the most remarkable in both islands is the *chaumontel,* which certainly attains there its greatest perfection, owing, no doubt, to the peculiarities of climate it enjoys, and the absence of night frosts when its final ripening approaches. Great attention also is paid to the culture. These pears are usually plucked on or about the 10th October, but are not fit for use for several weeks, being in perfection about Christmas. Those weighing sixteen ounces are regarded as first rate, and fetch good prices. Pears of this size average in value from four to five pounds sterling per hundred in the Guernsey or Jersey market; but as they diminish in size and weight, the value falls rapidly, the numerous small fruit being considered only fit for baking, although in point of flavour they are little inferior.

Chaumontel pears of extraordinary size are sometimes obtained by removing most of the fruit from a tree. The largest and best grown fruit on record, was grown at Laporte in Guernsey, in the year 1849. It measured 6½ inches in length, 14½ inches in girth, and weighed thirty-eight ounces English weight. No chaumontel weighing more than thirty ounces, appears to have been produced in Jersey. As a group of pears from a single tree, there is perhaps no more remarkable instances recorded, than one occurring in the season of 1861, when of five fruit obtained from one tree, in the gardens of Mr. Marquand, of Bailiff's Cross, Guernsey, four of them weighed together seven and a-half pounds. It is worthy of remark, that in this case the tree, though usually prolific, bore only these five fruits. The pears in question, weighed respectively thirty-two and a half, thirty-three, thirty-one and a-half, and twenty-two ounces.

Cordon Training of Fruit Trees.

For the following description, the author is chiefly indebted to the Rev. T. Collings Bréhaut, the successful introducer of such important modifications of the cordon method, as to justify his being regarded as a second inventor. Mr. Bréhaut is himself the author of a most useful treatise on the subject, published in London in 1860.

This method of training has been carried out so successfully in the gardens of Richmond House, Guernsey, that it deserves special notice as one of the curiosities of the island. The method may be described as follows :—

Trees are planted against walls, either in the open air or in orchard houses, at intervals of thirty-six inches, and having three leaders each, which are laid in at an angle of 45°. The spurs, and successive growths on these spurs, are closely pinched-in during the summer, so as to leave little for the winter pruning. It has been observed by Dr. Lindley, that summer pruning has been too long neglected, and the result has been that fine crops of fruit have been annually gathered under this system. Early potatoes, planted in the borders of the orchard houses, were ready by March; and peaches by July, from the walls. As soon as six leaves were developed on any shoot they were pinched down to three; the succeeding growths were respectively pinched in to two and one leaves,—the whole resembling a thick cord of leaves, shoots and fruit, from which the name "cordon" is derived. This system is applicable to trees in pots, whose branches grow naturally at an angle of 45°, and to standard trees in the open air. For Chaumontel trees against walls it has no equal, and for peaches it is so successful, that in Mr. Bréhaut's orchard house, which is a lean-to, the produce is at the rate of three peaches per square foot for the back wall, and about as many fruit on the trees in pots.

AMERICAN ALOES
On the Lawn at Valnor, Guernsey.

THE SHRUBBERY AND FLOWER GARDEN.

It is not possible to exaggerate the rich luxuriance of vegetation in carefully-cultivated gardens, to be seen in sheltered localities in Guernsey. This is recognised not only in the great variety of foreign, and often tropical trees, that grow in the open air, but in their magnitude and the freedom of their growth; while the mixture of South African, Brazilian, Australian, New Zealand, and Norfolk Island forms of vegetation, with many North American, Chinese, and Japanese species, and the indigenous plants, give a singular and very beautiful result.

To H. O. Carré, Esq., Lieutenant Bailiff of Guernsey, especial credit is due for the taste and intelligence he has displayed in

cultivating foreign trees and shrubs. Mr. Carré has also supplied lists of great value, which are now submitted to the reader.

List of trees and shrubs not indigenous, hardy in Guernsey but tender in England.

*ABELIA floribunda.
uniflora.
†ACACIA affinis. *s.*
dealbata.
longifolia.
*melanoxylon.
pycnantha.
Riccana. *s. gr.*
verticillata. *s.*
ADENANDRA uniflora.
*AGAVE americana.
*ALOYSIA citriodora.
ANOPTERIS glandulosa.
APHELEXIS humilis.
ARALIA trifoliata.
ARAUCARIA braziliana.
ARBUTUS procera.
*ASTER argophyllus. *s. gr.*
*AZALEA indica.(1)
sinensis.
†BENTHAMIA fragifera. *ss. gr.*
*BUDDLEA globosa.
*CAMELLIA japonica.(2).
reticulata.
*CEANOTHUS azureus. *ss.*
†papillosus.
rigidus.
†thyrsiflorus.
CHAMÆROPS humilis.
CORDYLINE australis (3)
*CORONILLA glauca.
†CUNNINGHAMIA lanceolata.
*CYTISUS foliolosus. *ss.*
*racemosus. *ss.*
DIOSMA purpurea.
EDWARDSIA grandiflora. *ss.*
microphylla. *ss.*
*ELÆAGNUS sp.(4) *s.*
EMBOTHRIUM coccineum.
ERICA arborea. *ss.*
ERIOBOTRYA japonica.(5)
ESCALLONIA floribunda.
macrantha.
organensis.
*pterocladon.
*EUCALYPTUS globularis.
orbicularis?
apiculata.
EUGENIA Ugni. *ss.*
EUPHORBIA mellifera. *ss. gr.*
EURYBIA ilicifolia.
GARRYA laurifolia.
HABROTHAMNUS fasciculatus.
HAKEA (3 or 4 species)
*HYDRANGEA hortensis.
INDIGOFERA Roylei.
JUNIPERUS Bermudiana.
LAURELIA aromatica.
LEPTOSPERMUM sp.
LOMATIA ferruginea.
MAGNOLIA grandiflora.
MAHONIA nepalensis.
†tenuifolia.
MANDEVILLEA suaveolens.
MELIANTHUS major.
METROSIDEROS, (3 or 4 species). *ss.*
MITRARIA coccinea. *ss.*
MYRSINE africana. *s.*
MYRTUS communis.
NERIUM oleander.(6).
OLEA europæa.
OZOTHAMNUS thyrsiflorus. *s. gr.*
PINUS filifolia.
*PITTOSPORUM tenuifolium?
undulatum.
sp. N. Zealand.
*Tobira.
PÆONIA Moutan.
*POMADERRIS elliptica. *ss.*
PROSTANTHERA violacea.
rotundifolia?
QUADRYA heterophylla.
RHODODENDRON arboreum nivcum. *ss.*
,, sanguineum.
,, roseum.
campanulatum.(7)
catawbiense Russellianum.
caucasicum Nobleanum.
Edgworthi.
formosum (Gibsoni).
Jenkinsi.(8).
*VERONICA decussata. *ss. gr.*
*salicifolia. *ss. gr.*
speciosa. *ss.*
*Andersoni.(9). *ss. gr.*
*VIBURNUM rugosum. *s. gr.*
YUCCA aloifolia.
variegata.

References.

(1) Most of the varieties blossom profusely. They succeed best in cool, moist situations.

(2) Many varieties blossom admirably as standards. Against walls, all those that have been tried blossom in perfection. A more detailed notice of these beautiful shrubs will be found in another page.

(3) This is the *Cordyline indivisæ* of gardens.

(4) There are two species, one probably *E. latifolia* or *E. reflexa*; the other an evergreen, probably E. macrophylla.

(5) This species does not flower in Guernsey.

(6) The flower buds always fall without expanding.

(7) There are also some hybrids of rhododendron arboreum niveum crossed with this species.

(8) All these rhododendrons bloom in perfection; the R. arboreum roseum towards the end of January, and other species in constant succession till May. Some varieties come into bloom before Christmas.

(9) There are also various other hybrids, all of which generally flower freely the whole winter.

In the preceding list, the species marked (*) have been found to bear exposure to wind nearly as well as indigenous plants, while those marked (†) suffer in their leaves or young wood in exposed situations. Those marked (*s*) produce perfect seeds, and (*ss*) seed abundantly. The mark (*gr*) denotes that self-sown seeds occasionally spring up naturally in the open ground.

Many of the trees and shrubs in this list will be referred to again in the general remarks that follow. Some of them are so abundant as to be almost regarded as indigenous,—others are still rare, though easily cultivable.

The next list includes a number of plants that pass ordinary winters in the open air without injury, but which are liable to suffer in cold winters, although never killed by the frost. The sign (†) here indicates those which sometimes lose their leaves, and a portion of their young wood; (‡) those which are sometimes killed down to the ground, but spring up again vigorously; and (*w*) those that require to be planted against or in front of a wall; *s.*, *gr.* and *ss.*, have the same meaning as in the first list. The italics denote a few that are rather more tender than the rest.

List of trees and shrubs, half-hardy in Guernsey and tender in England.

‡BOUVARDIA triphylla.
‡angustifolia.
‡BRUGMANSIA *sanguinea*. *ss.*
‡CANTUA dependens. *w. ss.*
†CASSIA corymbosa.
‡CESTRUM *aurantiacum*. *s.*
‡CLETHRA arborea.
†CHEIROSTEMON platanoides.(1)
†CITRUS aurantium. *w. s.*
†decumana. *w. s.*
†OLIANTHUS puniceus. *w. ss.*
‡DRACÆNA flexuosa.
ECHINOCACTUS.(2) *ss. w.*
†ERYTHRINA crista galli.(3) *w.*
†‡FUCHSIA.(4) *s.*
‡HABROTHAMNUS elegans.
†INDIGOFERA decora.
‡JASMINUM azoricum. *w.*
†SOLANUM jasminoides.

References.

(1) Shows no disposition to bloom, but forms a tree about 22 feet high, with a trunk 19 inches in circumference, at 2 feet from the ground.

(2) Hybrids between *C. oxygonus* and *C. Eyresii*.

(3) In front of a south wall it has formed a woody trunk 9 feet high, and 18 inches in circumference, at 2 feet from the ground, producing two or three heads of flowering branches, which die back to the old wood every season. One year it produced seeds from which plants were raised.

(4) The hard wooded species and varieties scarcely lose their leaves in ordinary winters. In severe winters, besides their leaves, they lose a portion of their young wood. Some kinds are killed to the ground in seasons of extraordinary severity. Some of the strong growing sorts may be trained as standards, with a stem 5 feet high, and a head of branches rising 4 or 5 feet higher. The stem will attain a diameter of 2 to 3 inches.

F. microphylla, and the scarlet hybrids between it and *F. cylindracea* are rarely killed down, but the soft wooded species and varieties are not unfrequently killed to the ground.

Many species and varieties might be added to the above list of half-hardy plants, and many hybrids produced from them and amongst them. As in the former list, some of the more common plants will require further notice.

The third and last list includes plants that will flourish in the open air, often for many years without injury, but which are liable to be killed by the occurrence of a hard winter. The sign (*) in this list indicates those which are very rarely destroyed; (*w*) some that require a wall; and the italics those which are least hardy. The letters *s.*, *gr.* and *ss.*, mean as before.

List of tender trees and shrubs growing occasionally in the open air in Guernsey.

*ABUTILON venosum. *w.*
ACACIA *lophantha. ss.*
*BRUNIA nodiflora.
*BURCHELLIA capensis.
*CALCEOLARIA integrifolia. *ss.*
*rugosa. *ss.*
CALLISTACHYS ovata. *s.*
CHOROZEMA varium. *ss.*
COREA *scandens. ss.*
*CORREA alba.
DIOSMA linearis.
capitata.
*DIPLACUS glutinosus.
*EPACRIS nivalis.
paludosa.
ERICA *baccans.*
cerinthoides.*
colorans.
cruenta.*
curviflora.
mammosa.
Bowiana.*
*ERICA Bowiana intermedia.
persoluta.
transparens.
vestita.
Willmorei.
EUTAXIA myrtifolia.
KENNEDIA prostrata. *s.*
*GNIDIA imberbis. *gr. s.*
*HARDENBERGIA monophylla. *w.*
*ovata. *w. ss.*
HOVEA celsi. *w. ss.*
*INDIGOFERA australis. *ss.*
rubicunda. *ss.*
*MAURANDIA Barclayana. *gr. ss.*
MESEMBRYANTHEMUM.(1)
*MYRTUS myrsinoides.
PELARGONIUM.(2) *gr. ss.*
PODALYRIA sericea.
*PSORALEA australis (aphylla ?) *gr. ss.*
TACSONIA *mollissima. w.*
*TECOMA capensis. *w.*
WESTRINGIA *lilacina.*

References.

(1) Many species; some of which are very hardy.

(2) The scarlet bedding varieties often live for many years in the open ground; against walls they last much longer. The greenhouse kinds are more tender, but they frequently pass the winter unhurt.

The value of these lists and notes is great, as they are results of long experience and minute acquaintance with the habits of the plants, but they do not profess to be complete. The last, especially, might be considerably enlarged. In their present state they answer the purpose of indicating the climate, and they also suggest much that might be done and attempted by systematic cultivation in the island. They apply strictly to Guernsey, but there is no doubt that a somewhat similar series of tables might be prepared for Jersey, although it is not likely that all the species that can be cultivated in Guernsey would

endure the slightly more excessive climate and colder winter of the larger island. On the other hand, it is possible that the climate of Jersey might be more favourable for other species, requiring more summer heat and enduring more cold in winter.

We now proceed to offer a few general remarks on some of the more abundant species.

Of large trees, the ilex or evergreen oak, is one of the most frequent. The Turkey oak, the common English oak, the beech and white poplar, are sufficiently common. The horse chesnut is also to be seen, though it is not so frequent. The sweet or Spanish chesnut, and the walnut, do not fruit abundantly, nor are they much cultivated.

Many pines and firs grow rapidly and well, though they are apt to suffer from the winds. The deodar (*cedrus deodara*), the Weymouth pine, the stone pine, the pinaster, the common Scotch fir, and the larch, are all occasionally seen. There are a few exceedingly fine cedars of Lebanon in Guernsey.

The Araucaria appears to grow quickly, and resist better the unfavourable influences arising from weather, in Jersey and Guernsey, than in most parts of England. Very beautiful and well-grown specimens are to be seen in many parts of these islands. Both the Brazilian and Chilian species are cultivated. Acacias grow extremely well and quickly, but they suffer greatly from the wind, owing to the brittleness of their wood.

The arbutus not only grows very freely, but the fruit ripens and is eatable. It is known as the winter strawberry. A very beautiful object, and one not seen in many parts of England, is a fine tree of this kind in full fruit, bearing its bright red strawberry-like berries about Christmas time. These trees are often thirty feet or more in height.

The laburnum and lilac are not so fine as in England.

The magnolia, both the scented species and others, occasionally planted in English shrubberies, here form noble trees, flowering very freely. The myrtle is sometimes trained against houses, then

attaining a height of thirty feet or more. It is more usually planted as a shrub in the open garden. It grows well, and flowers very freely.

All the laurel tribe do well, except where cut down by the wind. The laurestinus is especially hardy and quick growing. Daphnes flourish marvellously and remain in flower a long time. The gum-cistus is also very successfully grown.

Rhododendrons are not considered to succeed particularly well, but if supplied with peat earth and kept in shade and sheltered a little from the worst winds, they flower very beautifully and freely, beginning in December and lasting on with different varieties till June. Geraniums live through ordinary winters in the open air, and their dimensions approach those seen at Gibraltar and in Andalusia.

The well-known *Camellia japonica* is, perhaps, the most remarkable of all those flowering shrubs, which grow freely and without shelter in the open air in the islands, although rarely met with, except under glass, in England. They may be seen in all exposures, occasionally trained on walls, but more generally as standards. In the garden of Beau Sejour, in Guernsey, are three trees, covering a long wall, 14 feet 6 inches high. The stem of the largest of these is 33½ inches in circumference, and the branches are trained horizontally, about sixteen feet from the trunk in each direction. The two others are only a little inferior. All are fine double kinds, and the flower buds are numerous, almost beyond belief.* The flowers begin to appear

* The following notice of these Camellia trees, and of their dimensions, is given by the present occupant of Beau Sejour, J. L. Eland, Esq., to whom the Author is indebted for the measurements.

(1). "*Red and white*," 30 feet 6 inches long; (2) "*Double white*," 33 feet 3 inches long; (3) "*Lady Hume's blush*," 23 feet 3 inches long. The average diameters of all the stems between the ground and the first fork, are about the same, and measure nearly 30 inches. The height of the trees is limited by that of the wall on which they are trained.

On the same wall is an orange tree, whose branches are trained to the full

in the first week of November, and the trees are one mass of bloom during the whole of the winter, until March. In less warm and sheltered stations, and with standards, the flowering begins and ends a month later. Every part of Guernsey, however, seems favourable to the growth and flowering of these beautiful plants, and they are even hardy enough to make excellent hedges in the manner of the laurel.

Some other shrubs, as the evergreen species of azalea, are as hardy as the myrtle, but will bear more shade, and seems even to thrive best where most exposed to the bleakest winds. Some of the cultivated garden varieties make a low hedge or border in places too near the sea and too much exposed to admit of much other growth.

Of other flowering shrubs, the hydrangea is not more remarkable for the large size it attains and the abundance of its blossom than for the singular admixture of pink and blue flowers it produces. All the islands are alike favourable for the rapid growth and free flowering of this shrub.

The bulbous plants grow in Guernsey admirably. Those which, though tender in England are hardy in the islands, are chiefly natives of the Cape of Good Hope. Amongst these are various species of *ixia, sparaxis, babiana, tritonia* and *gladiolus,* besides several *amaryllidæ* (lilies).

It is impossible to exaggerate the beauty and variety of these, and the brilliancy of the *gladiolus* contrasts wonderfully with the tone of colour prevalent at the season of its blossoming. The season of rest of all these plants is the summer, and, like the anemone and ranunculus of our gardens, they only grow

height of the wall, and to about 10 feet from the stem on each side of the trunk. This tree also has a very large stem. No shelter of any kind is given to any of the trees. Another remarkable orange tree, loaded with flowers and fruit in the season, grows in the garden at Candie, the residence of the bailiff of Guernsey. In the same garden is a magnificent magnolia and several rare and beautiful trees in perfect condition and vigorous growth.

freely in cool, moist weather. A Guernsey winter suits them exactly, as is fully testified by the abundance and perfection of their flowers in May and June; and that the summer is equally favourable is proved by the great abundance of seed they yield. In some cases, as in the genera sparaxis, babiana, and tritonia, the seed plants itself and the plant becomes naturalised. So, also, the *ixia longiflora*, and hybrids derived from it, have become weeds difficult to eradicate, owing to the rapidity with which their bulbs multiply and the power they possess of vegetating, although buried to a good depth below the surface. There is a pale green coloured ixia, considered one of the curiosities of Guernsey.

The Guernsey lily, a species believed to have been brought accidentally from Japan, is another instance of a rare and beautiful plant that has become so common as to be characteristic. The great beauty of the rich red flower of this lily, and the fact, that it flowers regularly once in two or three years in the island, while it can seldom be made to flower a second time in England, are subjects of great pride to the islanders. The *belladonna* is a yet more handsome lily, flowering regularly every year (after the bulb has attained its flowering size), even more freely than the real Guernsey lily. The gardens, even those of the smallest cottagers, are generally decorated with plants and flowers of these and other kinds; and bouquets are collected and sold for a few pence in the market, that might with a little more taste in arrangement command a large price at Covent Garden.

Fuchsias of the commoner kinds attain the height of fifteen or twenty feet. They have large, woody, tree-like stems, and are covered with flowers at almost all seasons. A verbena also (or rather the *Aloysia citriodora* of botanists, the common lemon plant, formerly called a verbena) presents the form and proportions of a tree, the long, drooping branches attaining great length.

The Mexican aloe (*agave americana*) grows rapidly in sheltered

places and flowers freely in from twenty to thirty years, the flower stalk often attaining a height of from thirty to forty feet. The finest specimens are in Guernsey, near the centre of the island, and are often magnificent masses of vegetation, the leaves attaining a length of from eight to nine feet before flowering commences. The spikes of flower are very large. A beautiful specimen is represented in the engraving in page 491. A number of these aloes have been planted in sheltered rocky places, near the public walks recently constructed under the cliffs of Fort George, Guernsey. They will, no doubt, prove very attractive and picturesque, when grown.*

Yuccas of various species are common, and grow very freely. Neither they nor the aloes seem to require shelter and careful treatment, except when the cold is unusually intense.

Guernsey abounds with rare grasses, one of which, *lagurus ovatus,* has been transplanted and cultivated with success, for ornamental purposes in England. The elegant pampas grass is now seen waving its noble tuft of flaxen or pink feathers in most of the grounds in and near the town, and is evidently quite hardy. It attains a height of twelve or fourteen feet. The *canna Indica,* a tender tropical plant, is acclimatised. It grows from two to three feet high, with handsome leaves, and produces abundance of seeds, which strongly resemble in size and appearance swan shot. The plant is commonly known by the name of Indian shot. It is used by the cottagers instead of laths for training plants on the walls.

* The following note is added by Mr. Carré. "I have never known the agave suffer from cold or wind, even in exposed situations, and the ordinary species of yucca are still more hardy." The aloe figured in the illustration referred to, represents an individual that flowered two years ago.

CHAPTER XXII.

TRADE, COMMERCE, AND MANUFACTURES.

RUINED ARCH AT GROSNEZ, JERSEY.

THE trade of the Channel Islands is not inconsiderable, but does not arise from any important manufactures. Ship building, formerly carried on to a much greater extent than lately, has been checked, both in Jersey and Guernsey, partly by the modification of the timber duties in England, but very much more by the greater cheapness of iron in the mother country, and the fact that this metal now enters so largely in the construction of ships. A profitable carrying trade, to and from Newfoundland, is still carried on by the island vessels, but this is, perhaps, not likely to increase.*

* The shipping of Jersey (1862) is carried on by 432 ships, measuring 40,304

The chief exports of the islands are as follow:—Granite, for paving purposes; fruit and vegetables; fish, oysters, and crustaceans; cows and heifers. In addition to these objects of trade with foreign ports, a considerable number of bricks are manufactured both in Jersey and Guernsey, of which two and a-quarter millions were exported in 1861 from the former island. There are also some small local manufactures which will be considered in their place.

Stone.

A very large and important stone traffic is carried on in Guernsey, the granite of which island, broken up for paving purposes, is largely used in London, owing to the extreme hardness and toughness of the material, and the fact that, in wearing, it does not become slippery. Numerous sailing ships are employed in conveying the stone, and these ships, when unloaded, proceed to Newcastle for coals, thus making a round trip. Steamers also carry a considerable quantity as ballast.

The Guernsey syenite (blue Guernsey granite) is extremely dense. Its specific gravity, as determined from carefully-selected average samples, is 2·83, nearly the same as the best Pen-man-mawr, and much higher than Mount Sorrel syenite, which is only 2·65.* The best is obtained from several large quarries on the north-east coast, and its resistance to crushing weights is six tons to the square inch in place of three tons, which destroys

tons (average 93 tons per ship); that of Guernsey by 122 ships, measuring 17,875 tons (average 146 tons per ship). The greater average tonnage of the Guernsey vessels is accounted for by the number of small vessels in Jersey engaged in the oyster trade.

* These results were obtained, a few years ago, by the late T. H. Henry, Esq., F.R.S., for the author, in the course of a comparative enquiry conducted by him in reference to the durability of road metal. The relative value of the different road-metals for special purposes is an important subject to determine, and one involving many practical difficulties. Neither the Herm nor Jersey granite appear to be so durable, and the Cornish and Aberdeen are far inferior.

the average of Cornish material. A practical test of the value of this material was obtained several years ago on the road leading to the East and West India Docks, in London, where, after seventeen months of the hardest trial, the loss per superficial foot was from four to five pounds, while good Dartmoor granite lost 12½ lbs., and Aberdeen blue granite 14¾ lbs. There is no doubt of the excellence of the material, and the cost is not excessive.

Some of the other properties of the Guernsey syenite render it especially valuable for the purposes for which it is chiefly used in London, Portsmouth, and other large towns, where there is much heavy traffic. Composed of crystals of felspar and hornblende bedded in hard quartz, these crystals and the quartz being all of different hardness, the various parts of the stone become differently worn by the same traffic, and the surface thus remains rough. All the ingredients being in a state little decomposable by any exposure to which they are liable, the amount of weathering is strictly confined to the parts removed by mechanical abrasion; this not being assisted, as in most granites, by a chemical action increasing with the wear. The Grooby cubes from Leicestershire (near Mount Sorrel), are the only stones that compete with the Guernsey stone. Both are of syenite, and each has properties rendering it best adapted for certain kinds of wear. The Guernsey is the best for extreme and incessant wear.

Besides the ordinary cubes and pitchers for paving, a considerable quantity of granite is cut and sold for kerbs, and not a little of the more ornamental varieties is valuable for architectural purposes. The stone is generally small grained, and has numerous natural backs. It can, however, be obtained in blocks of considerable size. There have been, in all, upwards of fifty large quarries opened, but few are in actual exploitation at present for the supply of London. A large quantity of the smaller stone and chippings is valuable.

Besides the quarries opened for road metal, there are several on the other side, and on the north of the island, all near L'Ancresse, where good granite is obtained for monumental purposes only. This is not so hard or tough, and is of different colours.

The stone business of the island is conducted entirely at St. Sampson's, and has very greatly increased during the last twenty years. In the year 1840, the number of ships leaving the harbour of St. Sampson was 369, carrying about 35,000 tons of stone. In 1851, before the present harbour dues had been raised and the harbour improved, there were already 586 vessels, carrying 82,593 tons of stone, while in the year 1860, the number of vessels was 642, and the stone carried was 122,997 tons. The demand for the stone is very large and increasing; and during the past year, the quantity exported has been very much greater than in 1860. As many as 731 vessels entered and left the harbour of St. Sampson in 1861, carrying stone to the amount of 142,866 tons. Several thousand tons were also shipped from St. Peter's Port, chiefly in steam-boats.

The methods of quarrying differ little from those adopted elsewhere. A sketch of one of the quarries is given in the next page, from which the reader may judge of their picturesque appearance. They are worked generally below the water line, so as to require pumping apparatus, the power being supplied by windmills. The granite is removed by blasting; and as it abounds with natural backs, this is conducted with economy, large pieces being often removed at one blast. The quarries are not far from the shipping-place.

In Jersey, pink syenite of great beauty is quarried at Mont Mado, behind Bonne Nuit Bay. The vein of granite is not more than about 100 feet wide, and the walls are very rotten; but the stone itself, at a small depth, is hard and tough. It works into large blocks with very little waste, and is characterised by strong north and south joints dipping west, and cross joints hanging

cast north east and west south west. Although not exported at present, there is a fair demand for this stone at St. Helier's and elsewhere in the island.

Several other quarries are worked on the cliffs at no great distance from Mont Mado, apparently on a continuation of the same vein. The stone, however, differs a little in colour.

The Herm syenite resembles that of granite, and some of it is certainly of excellent quality. It has been in former times rather largely exported, but probably without quarrying, only the weathered blocks near the coast being taken. Of late years regular quarrying operations have been more than once commenced. The steps of the Duke of York's column, in Waterloo Place, London, are of this material, and have worn well. There are no works carried on there at present.

The Chaussey granite is somewhat extensively quarried, and the quality is excellent, the grain being fine and the colour good. Much of it is used at Granville, and it is carried into the interior.

VIEW OF A QUARRY AT ST. SAMPSON'S, GUERNSEY.

Vegetables and Fruit.

Potatoes are extensively grown in all the principal Channel Islands for the London market, and the quantity sent in the early part of the season is almost incredible. As much as 23,000 bushels (of sixty pounds) were taken over, some years ago, in one season, from Alderney alone, by a single trading vessel, other vessels also carrying large quantities; but the population of the island has increased so largely, and the produce of the potato has become so diminished, that there is no longer this excess of food. Early potatoes are grown under very favourable circumstances in Jersey and Guernsey, chiefly in sheltered places. These are ready for the table nearly three weeks in advance of those grown in Cornwall, and are readily sold for prices varying from one shilling to one shilling and sixpence per pound.

In ordinary years, from three to five thousand tons of potatoes are imported into Jersey, and about half that quantity into Guernsey. These consist of French potatoes for winter use. The export of potatoes from Jersey is very slightly less than the import, amounting in 1861 to about 3,000 tons; but owing to the early crop being exported at a very high price, and the French potatoes introduced when the price is lowest, the balance of profit is largely in favour of the island.

It has already been stated that grapes and pears form important articles of export from Jersey and Guernsey. The growth of grapes is especially remarkable, and is becoming more so every year, almost every house in both islands having its conservatory, and a large proportion of them assisting to supply the market. From Jersey, in an ordinary year, thirty tons are sent away, and from Guernsey more than nine tons. There seems hardly any limit to this source of industry, the grapes ripening perfectly, without artificial heat, at a somewhat earlier period than in England. In ordinary years, the cutting sea-

son commences early in August, and by the end of September most of the houses have been cleared. It is worthy of remark that so short a time as ten years ago, the demand for the island grapes was so small in Guernsey that a speculator failed to sell a moderate crop of 500 lbs. weight. In 1855, the export had arisen to 2¾ tons; in 1856, to 3¾ tons; in 1859, to 6 tons; and in 1861, to 9 tons.

The trade in pears—an out-door crop—is necessarily dependant on the season. The quantity exported is, however, always very large, both from Jersey and Guernsey. In the year 1859, a favourable year, nearly 10,000 bushels were sold from Jersey only, while, in the following year, less than 3,000 could be procured. From Guernsey, about 10,000 fine Chaumontel pears and about 3,000 bushels of common fruit may be regarded as the average. The fine pears are sold by the hundred, and frequently realise very large prices. Five pounds sterling per hundred in the island is not an unusual price for pears averaging twelve ounces each. The smaller fruit are sold by the bushel, and are much cheaper.

Apples were formerly a much larger crop in Jersey than they have lately been, many orchards having been destroyed to make room for other produce. About 150,000 bushels of fruit and 100,000 gallons of cider may be regarded as more than an average yield. Few apples are exported from Guernsey.

On the whole, it may be stated that upwards of 20,000 bushels of table fruit of all kinds (grapes, pears, apples, apricots, peaches and plums) annually leave Jersey for London or Paris. Probably about half that quantity is sent from Guernsey. The other islands can hardly be said to export fruit.

Besides vegetables and fruit, nearly a hundred thousand pounds of fresh butter are annually exported from Jersey, and a corresponding quantity from Guernsey. Some thousand tons of butter and several million eggs also pass through Jersey on their way to England.

Fish and Shell-Fish.

Of late years, fish of several kinds and a large number of lobsters and crabs have been sent from Guernsey to Southampton, and thence to London. So important has this trade become that it has entirely altered the local prices,—fish and crustaceans which, a few years ago, were extremely cheap, and varied in price according to the quantity taken, having now a standard price, regulated in some measure by that of London, and not unfrequently being higher than in London itself.

Turbot is one of the principal fish exported. It is caught sometimes in very large quantity, and extremely fine, and has been sold even within the last few years at three pence per pound in Guernsey, but this is not likely to happen under the new arrangements. Of other fish, the red mullet and John Dory are sometimes common, and are now sent away.

The number of lobsters taken weekly from the various lobster-pots round the coast of Guernsey is estimated to average 4,000, of which not more than 500 are consumed in the island. A fixed price is given for all animals above a certain length, and those below are paid for at half price.

Crabs are more numerous in the market than lobsters, fewer being exported: cray fish* are very fine, but not being thought equal to lobsters in the London market, they are chiefly retained for home consumption. Shrimps and prawns are common enough on the coasts of the larger islands, and in the sandy bays, but are little cared for, and seldom brought to market in Guernsey. They are more taken in Jersey, and cheaper. The larger prawns are very fine, but the smaller and best kind of shrimp is neglected.

There is a productive oyster ground between Jersey and

* This crustacean is not the real cray fish (*Astacus fluviatilis*) which is a river species and small. It is the spiny lobster (*Palinurus vulgaris*) of naturalists, and attains a length of eighteen inches. It is almost equal to the lobster for the table.

France, whence are obtained large supplies. Nearly 200,000 tubs of oysters were exported from Jersey in 1856-7, and almost as much in some former years. This trade is interfered with by the French, and squabbles frequently arise among the fishermen of the two countries. The trade is carried on at Gorey on the east coast of Jersey. The cut in page 511 represents the sands in Grouville Bay, near Gorey, with one of the characteristic stone anchors of the island in the foreground. The harbour of Gorey is represented in former illustrations. See page 372 and also page 469.

In the year 1860, 165 vessels were engaged in the oyster trade, having a tonnage of 3,230 tons; employing 888 men; supplying 98,110 tubs of oysters, whose average value, estimated at 4s. 10d. per tub, was £23,733. On 86,610 tubs, there was also a freightage amounting to £3,789, making a total estimated value of £29,522. Only two-thirds of the vessels and men employed belonged to Jersey. Besides the hands employed in dredging, about 250 men and women are employed in the oyster parks in sorting, loading, and unloading oysters.

It seems, however, certain that the oyster beds are becoming impoverished, partly by over-use, and partly by neglect and fishing at improper seasons. There can be little doubt that many places on the coast, both of Jersey and Guernsey, are well adapted to the growth of oysters by artificial culture, a method most successfully adopted in France, and requiring little more than shelter from certain enemies.*

* The following extracts from an excellent article on Fish Culture, in the "Cornhill Magazine" for February, 1862, may afford useful suggestions to those interested in this subject:—"M. Costa has superintended the laying down of a great number of new oyster beds on the coasts of France, and has repeopled a number that had been exhausted by over-dredging. His mode of engineering an oyster bed is exceedingly simple, and is founded on the knowledge that all that is required to secure a few millions of oysters is a resting-place for the spat. He makes up a foundation of old bricks, tiles, fragments of pottery-ware and shells, and over these he plants a forest of strong stakes, round which are twined luxuriant

The Ormer (*aureille de mer*), a beautiful univalve shell, is eaten in the islands, and the shells were at one time largely exported to Birmingham, to be worked into the *papier maché* manufactures of that town. The iridescent nacre of the shell was used in this way, but seems now not to be required.

Cattle and Sheep, Pigs and Poultry.

Although it can hardly be said that cows are bred in the Channel Islands for exportation, there is still a considerable amount of profitable export business carried on relating to them. In the year 1860, Jersey exported 1,138 cows and heifers, and Guernsey about 500, the value of each cow of pure breed being from £14 to £18. In the year 1861, the export from Jersey had increased to 1,819 beasts. A much larger number than this total has, no doubt, been advertised for sale in England as "Alderney cows" alone, but since the whole stock of cattle in that little island does not exceed 400 head, and certainly not more than fifty heifers are sent away annually, it may be well to state that not only are the real Channel Island cows almost all from the larger islands, but that the balance is made up chiefly of small Breton cows, whose value in Britany is little more than £5 each.

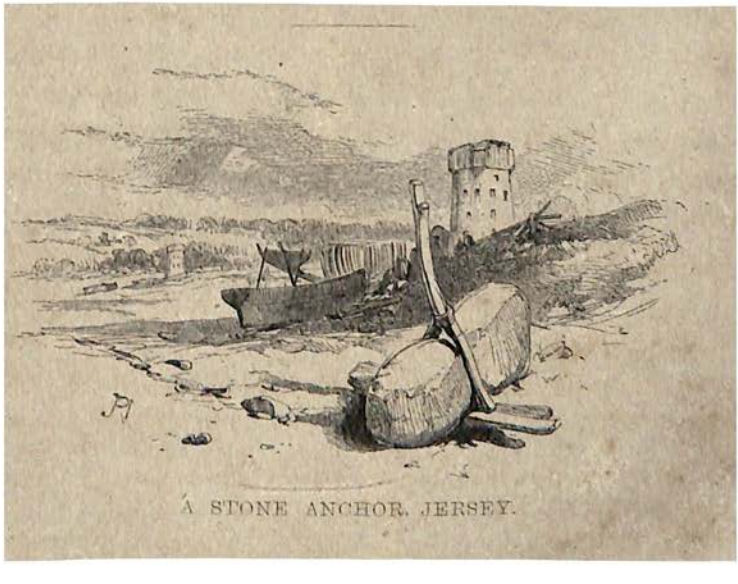
While a certain number of cows are always exported from the islands, there is also a large import of oxen and other cattle for food. This amounts to upwards of 6,000 head of oxen and calves for Jersey, and nearly 2,000 for Guernsey; about 15,000 sheep and lambs for Jersey, and 5,000 for Guernsey. These imports naturally vary a good deal from year to year; but as the population is now stationary, these figures will give a sufficient general notion of the demands of the respective populations.

branches, to which the seedling oyster may become attached, and then laying down a parent stock of breeders, he patiently awaits the result, knowing well that in the course of four years there will be an abundant supply of marketable oysters. The full cost of an oyster bed is ten pounds."

Besides material for beef and mutton, Jersey also imports from 3,000 to 5,000 head of swine. Most, if not all these, come from the neighbouring coasts of France.

The beasts imported from France are generally sold in Jersey fit for killing, and the meat is cheap and good. Guernsey is supplied with very inferior animals that often require fattening in the island. The price of meat in Guernsey is always considerably higher than in Jersey, owing to a very foolish arrangement by which the number of butchers in the latter island is strictly limited, and the trade monopolized. Meat is not allowed to be sold in Guernsey except in the markets of St. Peter Port and St. Sampson's, and then only by the licensed and authorized persons. The small income thus received is at the expense of a heavy loss to the community.

Upwards of a hundred tons weight of dead poultry and nearly ninety thousand living individuals were imported into Jersey in the year 1861, chiefly from France, and a corresponding number entered Guernsey. There is no export of these articles of food.



A STONE ANCHOR, JERSEY.

Miscellaneous Manufactures.

There are several small manufactures in the islands of Jersey and Guernsey, but few of these are on a sufficient scale to admit of export. The most interesting are (1) the manufacture of iodine, which has been for some time steadily carried on in Guernsey to some extent, but admits of large increase; (2) the preparation of a kind of arrowroot from the roots of a species of *Arum*, also introduced into Guernsey some years ago from Brazil; and (3) a manufacture of dried grass, called *Han*.

Kelp and Iodine.

The source of supply of iodine is the sea-weed growing on the rocks round the Channel Islands, or drifted in from the Atlantic. It is called *Vraic*, and has already been alluded to more than once in these pages. An account of this as a source of wealth to the islands has been reserved to the present chapter; and the subject is one of no slight importance, although the manufacture is but little developed.

The sea-weed cut from the rock (*vraic scié*) is generally a mixture of three species of Fucus (*F. vesiculosus*, *F. serratus*, and *F. nodosus*). The drift weed (*vraic venant*) is a Laminaria (either *L. digitata*, or *L. saccharina*). Many algæ are mixed with these, but the species referred to form so much the largest proportion that we may neglect the others in estimating the general nature of the supply.

Before proceeding to any further detail, it will be advisable to quote analyses of these weeds, as giving a definite idea of their relative value for economic purposes. They are as follows, the per centage of water being given in the first line of the table

and the composition of the dry weed (dried at 212°) in the remaining part:—

ANALYSIS OF THE SEA WEEDS.

	Laminaria.		Fucus.		
	L. digitata	L. saccharina.	F. vesiculosus	F. serratus	F. nodosus.
Per centage of water in the undried weed .	82·00	81·00	71·00	78 00	58·00
Dry Weed.					
Organic Matter p. cent.	70·11	67·65	80·36	75·08	83·41
Soluble Ash . „ .	23·56	25·60	14·08	15·86	11·64
Insoluble Ash „ .	6·33	6·75	5·56	9·06	4·95
	100·00	100·00	100·00	100·00	100·00
Yield of Kelp per cent.	33·34	35·11	24·38	28·78	18·16

COMPOSITION OF THE SOLUBLE ASH.*

Sulphuric Acid . . .	2·13	1·63	4·17	4·62	2·93
Chlorides of Potassium and Sodium . . .	21·53	23·89	11·40	14·40	10·73
Potash	6·89	8·96	2·04	4·41	2·55
Iodine	0·48	0·16	0·01	0·04	0·04

It will be evident from an inspection of these tables that the drift weed (Laminaria) is the least economical for carrying, owing to the much larger quantity of water it contains. On the other hand, if dried on the spot by sun and air, it is found to be very much richer in soluble ash, and that soluble ash is also much richer in proportion in iodine, and contains much more potash, while a larger per centage of kelp is also obtainable from it. The cut weed (Fucus), containing more organic matter,

* The soluble ash is variably composed of sulphates and chlorides of several bases. The above mode of expression is convenient as exhibiting best the relative economic value of the various weeds. The total amount of the substances named is given in each case, so that some of the elementary substances are included more than once. The analyses are taken from a paper by Mr. E. C. Stanford, published in the Journal of the Society of Arts for February 14, 1862 [Vol. X. p. 191].

is (probably for that reason) the more valuable manure. It is evident that, owing to the exceedingly wide space of rocky ground around all the islands and the infinite abundance of the weed, a large and profitable trade might be carried on in kelp and iodine. The work has been commenced at various times, and with some success, as respects the latter product. In Britany, the total annual production of kelp is as much as 24,000 tons, one manufactory only (that of Messrs. Fessier) yielding 5,000 tons. In all the British islands together, the present total manufacture is only 10,000 tons. As the value of kelp is as much as £4 per ton, and the raw material yields a large profit in the preparation, it is much to be regretted that anything should interfere with the development of so great a source of wealth to the Channel Islands. Professor Graham first directed attention to the weed around Guernsey as the richest known source of iodine; and the increasing demand for that substance for photographic purposes, renders the subject highly important. Mr. Adolphus Arnold commenced the manufacture in Guernsey in 1844-5, at a time when the price of iodine was very high. During the first three years he made and exported from 18 to 20,000 ounces per annum. Since then the quantity has been gradually, but very slowly, increasing, and now averages rather more than 20,000 ounces. Owing, however, to the want of proper arrangement between the farmers and the manufacturer, the quantity of weed required for the iodine has been hitherto abstracted from the supply for manure. This is quite unnecessary, and has tended to prevent a more rapid growth of the manufacture. Mr. Arnold has, however, been successful, and has received a medal from the jurors of his class in the International Exhibition (1862), in acknowledgment of his series of products obtained from the sea-weed.

The quantity of weed required to manufacture a ton of kelp averages twenty tons. It is estimated that a mile of coast, under favourable conditions, will yield on an average 2,000 tons

of weed per annum; and as at least a hundred miles of such coast exists around the Channel Islands, the extent of their resources in this product is manifest. There is no danger of spoiling the market by an increased manufacture, as the demand is much greater than the supply. There is equally little danger of exhausting the natural supply.

A ton of kelp, however, in addition to the iodine and chlorides now obtained, will also yield by destructive distillation a large quantity (from four to ten gallons) of volatile oil, from four to fifteen gallons of paraffin oil, three or four gallons of naphtha, and from one and a-half to four hundred weight of sulphate of ammonia. None of these is obtained under the present system of treatment.

Vraicking in the Channel Islands is a custom that time has hallowed into an institution. The cutting takes place twice a year; once in February, beginning at the first new or full moon after the first of the month, and lasting five weeks; and again in June, beginning in the middle of the month, and lasting ten weeks, terminating absolutely on the 31st August. The first crop is wholly for manure, the second partly for burning as fuel. The *vraic venant* is allowed to all persons from sunrise to eight o'clock at night, all the year round. The summer cutting is limited for the first month to the poor, or people who have no cattle, who are not allowed to carry it by barrow to a cart, but must carry it above spring tide, to be carted thence.

The cutting of the vraic (*vraic scié*), is the occasion of a general holiday. The rocks having been examined the day before by the men, large parties grouped into sets of two or three families, resort to the most promising places, where the weed is thickest and longest, and cut it with a small kind of reaping hook, throwing it into heaps till the tide flows. It is then carried out of reach of the advancing tide as fast as possible. In the evening, after the day's work, the parties meet at some neighbouring house of refreshment, where the *lit de fouaille* is

fitted up for the occasion, and lighted up. The evening closes with a dance.

The bringing in of the *vraic venant* is also a striking and pleasing sight. At sunrise, after a gale, when the tide is out, the carts are drawn up, and the men stationed along the shore, prepared to rake in all that can be got, each man provided with an immense rake, with a head two or three feet wide, and teeth a foot long, and the handle a young tree, from twelve to eighteen feet in length. The moment a signal is given, they begin to drag in the floating weed, and continue as long as the state of the tide allows.

Half the vraic of Guernsey is drifted in on the west coast, in the bays Rocquaine, Le Reé, Vazon, and Perelle. The total amount of weed collected in each year, all round the island, is probably not much under 30,000 loads, and as the value of each load, as taken on the beach, is estimated at about two shillings, the total value cannot at present be estimated at less than £3,000 for manure only. All the islands and rocks, except Sark, are exceedingly well supplied with this material.

The north western extremity of Jersey, and the islands and rocks in that part of the adjacent sea, are the chief sources of vraic in the larger island. Herm is rich in the various kinds of weed most valuable for manufacturing purposes. Herm or Jethou might be made use of with advantage for the manufacture of kelp, iodine, and other products obtainable from weed, without the accompanying nuisance being felt by any adjacent population.

Arrowroot.

A species of arum, introduced from Brazil, about ten years ago, by Mr. Martin, the brother of the sheriff of Guernsey, has been naturalized, and cultivated with some success in sheltered places in that island, for the manufacture of arrowroot. The quantity hitherto made has been consumed in the island, but it

appears to promise favourable results for cultivation and manufacture on a larger scale. It merely requires protection from high winds; and this may be obtained in various ways.

The digging of the crop, and the replanting, take place at the end of July, or the commencement of August, and may be carried on simultaneously, the smaller tubers being planted while the larger are put aside for manufacture. The planting is done in trenches, eighteen inches apart. Two years growth are required before the small tubers thus planted are fit for removal, and rich soil, well manured, is essential.

The produce is enormous; as much as 60 lbs. weight of arrowroot, worth 1s. per lb., having been made in one year from one and a-half perch of land, being a yield at the rate of nearly £200 per English acre. This is unusual, but the profit has always been large. The plant is subject to disease and decay, the mischief being much of the same kind as that which affects the cultivated arums of the garden.

The acrid principle present in this, as in other species of arum, is removed by evaporation, so that the dried plant is perfectly free from it; but the acrid juice is exceedingly unpleasant to those engaged in the manufacture. The fecula is obtained by the same method as that adopted to make potato starch.

Han.

The material thus named is derived from the fibre of the *cyperus longus*, manufactured like hemp. It is used instead of rope for many purposes, and is preferred to hemp, inasmuch as it does not readily harden, or become coated with slimy weed, when exposed to the action of salt water. Mats, footstools, saddles, horse collars, shackles for cattle, &c., are made from it, as well as boat-rope, and rope for various fishing purposes.

CHAPTER XXIII.

CONSTITUTION AND LAWS.

CROMLECH NEAR ANNE PORT, JERSEY.

The constitution of the Channel Islands has already been more than once referred to in the historical chapters of this volume; but it still remains to give a distinct account of so curious and interesting a subject, and also of the present state of the law in the islands, so far as it involves special peculiarities. To the present Bailiff of Guernsey the author is indebted, not only for many valuable hints and suggestions, but for pointing out

many sources of information. It is impossible to acknowledge too warmly the assistance cheerfully given by this gentleman.*

For all constitutional, political, ecclesiastical, and law purposes, the Channel Islands are divided into two groups. Jersey alone constitutes one of these, and Guernsey, Alderney, and Sark, together with Herm and the smaller islands adjacent, composing what is called "the Bailiwick of Guernsey," make up the other.† The Chaussey Islands are governed entirely from France, and so far as we are aware, they possess no peculiar privileges.

Starting, no doubt, from similar institutions, it is singular to observe how widely the two principal islands have diverged. Each, it is true, has its Lieutenant-governor, its Bailiff or Judge, its Dean or local ecclesiastical superior, its States' Assembly, and its Royal Court; but the rights and privileges of the principal officers and assemblies vary exceedingly, and that not only in modern times, but from a very early period. In both islands the Governor was originally supreme in the exercise of the ancient crown rights; but in Jersey he had much more civil jurisdiction than in Guernsey. The lieutenant-governor still claims these rights. In the time of Queen Elizabeth, the orders, laws, and ordinances then enacted secured arbitrary power to the governor, by bringing every appointment in the states under his influence; but these powers were afterwards greatly reduced, and the position of the Bailiff improved in a corresponding degree. It is not very long since the appointment of a permanent governor has ceased, and the rights and customs of the States in both islands have from time to time, up to a very recent date, undergone modification.

* To Peter Jeremie, Esq., the Queen's Contrôle in Guernsey, the Author has also to acknowledge obligations for assistance in this chapter.

† Alderney and Sark, although intimately connected with Guernsey in their government, have separate legal existence. Herm and Jethou are deemed to be included in Guernsey.

With regard to the so-called charter of King John, sufficient has already been said in Chapter XV. The documents, if so they can be called, that refer to it, are valueless and unmeaning.

The origin of the "States" in both islands is extremely obscure and doubtful, and cannot be traced with any satisfaction beyond the middle ages. Hugo, in his "Normandie Inconnue," supposes that they were first established by Mauleverer while Jersey was in the hands of the French in the fifteenth century, and it is not easy to negative this direct evidence. Even so lately as the time of Queen Elizabeth, there is nothing very clear about them, mention being then made of the States chiefly when money was to be raised. In such cases, the Court seems to have collected a sort of representative authority round it, in order to give weight to the measures advised or adopted.

In the beginning of the reign of James I., the States were remodelled, and they have existed nearly in their present form since the commencement of the seventeenth century. Taking this as the starting point, there does not seem to be any important position once occupied, in which they can be said to have lost any part of their independence, or fallen under the control of the court. They have undergone sundry reforms in their composition during the present century, chiefly in 1844.

The general idea of the States as a body originating money grants, and regulating affairs, must certainly have come from France, and in Guernsey they have always had the power of raising money by assessment, or *voie de taxe*. Their composition, which differs in the two islands, will be described presently. It is partly elective, and that in a double sense. It is also partly by appointment of the Crown. So far as it is elective, the basis of the suffrage is simply the payment of a rate. Every one who pays a rate, has a voice of some sort in the government of his island.

The ratepayers, denominated in Guernsey *chefs-de-famille*, elect the *douzaine* or dozen, originally so called from the number

of the representatives. The town parish of St. Peter Port, Guernsey, now elects twenty douzaniers, called the *central douzaine;* and there are four cantons or divisions of the town parish, each of which has its *cantonal douzaine* of twelve. In the Vale parish, the douzaine consists of sixteen members, and in the other country parishes of twelve each. The town parish, containing a population about equal to that of the rest of the island, is not therefore over represented.

The douzanier is the conservator of parish rights, and the assessor and regulator of the parochial expenditure. He is elected for life.

The douzaines of Guernsey, since the year 1844, are represented in the states by deputies, who are delegates rather than representatives.

In Jersey, the parishes are divided into *vingtaines,* each of whom elects from two to seven officers, called *vingteniers.* Each parish has also two *centeniers,* except St. Helier's, where there are six, and each elects one constable, who represents his parish in the States.

There are also in Jersey fourteen deputies appointed under a law passed in 1856, whose functions are confined to the Legislative Assembly. They are elected in the same manner as the constables, the term of office being three years. St. Helier's elects three, and each other parish one deputy.*

* It may be well to give here in the form of a note the following brief notice of the parochial officers in the various islands. Those of Guernsey are in addition to the douzaniers alluded to in the text.

In Guernsey two constables are elected by the ratepayers for each douzaine. They are elected for a year, and the senior acts as chairman or president of the douzaine. Their office is a somewhat higher one than the name implies, and until the year 1844 they held an important position in the States, representing the douzaine by virtue of their office. This is now done by the special delegate.

In the town parish of St. Peter Port the central douzaine has for some years past appointed four assistant constables, whose office nearly coincides with that of constable in England.

With the election of the douzaine, the constables, and the deputies of Guernsey, the double element, or that which is at the same time both popular and direct, ends. There are, indeed, other popular elements in the Guernsey Constitution, but they are popular in an indirect manner only. They are popular, and they are based on as broad a bottom as the most extreme admirer of the constitutional pyramid could wish; but the popular element passes through a medium. This means, that, in some shape or other, there is a double election. Thus the Jurats of Guernsey are elected by a mixed assembly, partly popular. In Jersey the Jurats are elected entirely by the people.

An islander, who over-approves of this kind of suffrage, should distrust his own judgment. It is one of the elements of his constitution, and he admires it as such. So should a Norwegian or a Prussian. So should the citizens of many other continental states. It is part of the system to which they are brought up, and which they uphold accordingly. An Englishman, on the other hand, should distrust his judgment when he over-hastily condemns it. It is essentially foreign to all his notions of the prerogatives of his own constitution; and it has rarely, in England, when suggested as an innovation for ourselves, or noticed as an element in foreign constitutions, been mentioned except as to be objected to.

It may exist in more forms than one. It may exist, as in the two countries just mentioned, where, whenever the parliament

In Jersey the management of the affairs of the parishes is committed to officers bearing the names of *Constable*, *Centeniers* and *Vingteniers* respectively. There are also a number of constable's officers in each parish. The constable is the highest officer of the parish. There is a *Vingtenier militaire* in each parish.

In Alderney there is one douzaine of twelve members, and in Sark there is one *Vingtonnier*. The president of the douzaine of Alderney is called the *Dean*.

In Jersey there are officers called "*Procureurs du bien public;*" in Guernsey and Alderney "*Procureurs des pauvres.*" These officers, as their names import, correspond with the overseers in English parishes. Each parish in all the islands has two churchwardens and a deputy registrar, who is usually the schoolmaster.

or its equivalent is dissolved, so many thousand voters elect so many electors, who elect the actual members of the deliberative assembly. This is the coarsest and most palpable way in which the principle exhibits itself. In whatever way, however, it is exhibited, it is a fact to study rather than either praise or condemn, *ex cathedra*.

In the Channel Islands we must take it as we find it; and having noticed the election of the douzaniers, constables, and deputies of Guernsey, as the results of a direct popular vote in the parochial vestry, ask what comes next.

Between the parochial and the general administration there would, in large districts, be an intermediate step, and, from the organization of the village we should proceed to the organization of the town; or (to use the language of constitution-makers) the parochial would rise into the municipal system. But in a small island the single large town is at one and the same time the chief parish and the centre of Government.

In the Channel Islands we pass from the equivalent to the English vestry, *i.e.*, from the douzaniers or vingteniers, the constables, and their rate-paying constituency, to the Administrative States; and here two elements present themselves: (1) indirect or double elections; and (2) nomination on the part of the crown.

But neither works purely and simply; as may be seen when we take the question from the opposite point of view, and exhibit, for the purpose of analysis, their organization.

But before proceeding to explain the organization of these governing bodies, so characteristic of the islands, it will be well to mention the names of the principal public officers of the islands, and give brief notices of their peculiar position in the government. The reader to whom the customs of the islands are not familiar, will thus be better able to follow the subsequent remarks.

The LIEUTENANT-GOVERNOR now replaces the Governor, formerly a high officer of state, or a peer, acting directly as the representative of the crown. He is a general officer in the army,

whose authority is supreme in all military matters, and who has certain civil rights and duties in each island, some of which will be noticed. He is generally continued in office for five years. There is always a separate lieutenant-governor of Jersey and of Guernsey, and they do not in any way interfere with each other's duties.

The BAILIFF, or Judge, is the first civil officer in each island, and the holder of one of the most ancient offices. Appointed by the crown, *durante bene placito*, the bailiff generally retains office for life. He is sworn into office by the Judge-delegate and Jurats. He presides at the Royal Court, takes the opinions of the Jurats, and when their voices are equal has a casting vote, both in civil and criminal cases. He dictates the opinion of the court to the *greffier*. He originates all measures proposed to the states, and represents the crown in all civil matters.

It is a somewhat remarkable fact, that the bailiff is not required in either island to have had any legal education or experience to fit him for his appointment, and, in point of fact, he has seldom been practically acquainted with the customs of the English or French courts. So completely is this the case, that the present Bailiff of Guernsey* is the first English barrister who ever held the office in either island. The satisfactory result obtained by the appointment, on the last vacancy in Guernsey, of a gentleman whose special education and previous habits had well prepared him for his judicial work in the Royal Court, might have been expected to ensure a similar course for the future, especially in the larger island, so much more peopled by English. When, however, a vacancy recently occurred in Jersey, it was not found possible to fill it up by any one specially qualified by previous knowledge and experience. The emolument is indeed so small, and familiarity with the French language and the customs of the place so essential, that great

* P. S. Carey, Esq., M.A., Oxon, formerly Professor of Law at University College, London, &c. &c.

difficulty would be experienced in carrying out systematically any plan for securing a specially qualified officer.

The JURATS are twelve in number in each island. In Jersey they are elected for life by an almost universal suffrage, and in Guernsey by the Elective states. They sit in all the courts, and have a voice in all deliberations. Their opinion collected by the bailiff is the verdict in all civil cases in both islands, and in criminal cases also in Guernsey. Like the Bailiff, they are eligible without any special legal qualifications; but certain callings, such as those of butcher, baker, and publican, are considered to disqualify.

The RECTORS of the different parishes sit in the States in both islands. They are appointed by the crown. In Jersey, all the rectors, twelve in number, have seats in the assembly; but in Guernsey, only eight out of the ten. At present the total number of Guernsey incumbents is only nine, two of the incumbencies being held together.

The PROCUREUR DE LA REINE, or Queen's Procureur, is appointed by the crown in both islands, and must be an advocate. He is considered to represent the Attorney General. There is another officer also appointed by the crown, called in Jersey the AVOCAT DE LA REINE, in Guernsey the CONTRÔLE DE LA REINE, who represents the Solicitor General.

In Jersey there is an officer called VICOMTE, or Viscount, who represents the High Sheriff of an English county. The corresponding officer in Guernsey is called the PREVÔT. These officers are appointed by the crown, and each has a deputy. There is in each island a REGISTRAR.

The Clerk of the court is called the *Greffier;* the usher of the courts retains unaltered the French name of *Huissier*. It is unnecessary to follow these lists in further detail.

The ROYAL COURT in each of the two principal islands consists of the Bailiff, who presides, and the twelve Jurats. There is also a Royal Court in Alderney, consisting of the Judge, who

represents the Bailiff, and six Jurats. In the absence of the bailiff or judge, there is a lieutenant bailiff or deputy judge.

In Jersey, besides the ROYAL COURT, there is only one Assembly. It is called the STATES, and is thus constituted:—

The Lieutenant-Governor	1
The Bailiff	1
The Twelve Jurats of the Royal Court	12
The Rectors	12
The Constables of the twelve parishes	12
The Deputies	14
Total	52

The Procureur Général, the Avocat de la Reine and the Vicomte possess seats, but not votes. The Lieutenant-Governor presides.

In Guernsey, the case is different. Besides the Royal Court, the States consist of two bodies, one called the Elective and the other the Deliberative States. Of these, the ELECTIVE STATES were interposed, at the beginning of the seventeenth century, between the body of the ratepayers and the administrative body or Deliberative States. Up to this date, the election had been parochial, at least so far as this—that the ratepayers (*chefs de famille*) voted and the constable was the bearer of the votes of the parish. So recently as the year 1844, the constable represented the ratepayers in the States. The constitution of the Elective States is now as follows:—

The Bailiff	1
The Twelve Jurats of the Royal Court	12
The Rectors	8
The Queen's Procureur	1
The Central Douzaine and their Two Constables	22
The Four Cantonal Douzaines	48
The Douzaine and Constables of the Vale Parish	18
The Douzaines and Constables of the other country parishes	112
Total	222

Of this number two hundred are directly, and in the first instance, elective, while in twelve of the rest, the popular element is mixed up, as the existing jurats vote for the new jurats, and were themselves originally elected by the same indirect method. The business of the Elective States is limited to the election of the jurats and the sheriff.

But besides the Elective States of Guernsey, there is the far more important body known as the STATES OF DELIBERATION, consisting of thirty-seven members, namely:—

The Bailiff	1
The Twelve Jurats of the Royal Court	12
The Rectors	8
The Queen's Procureur	1
The Deputies from the town parish	6
The Deputies from the country parishes	9
Total	37

The Queen's Contrôle sits, and has a right to speak, but does not vote.

The States of Deliberation are summoned from time to time by a notice, called a *billet d'etat*, issued by the bailiff in a printed form, and circulated to each member at least a week beforehand. This notice not only states the projects of law to be brought forward and propositions for discussion, but also correspondence or other documents relating thereto, as well as general and even argumentative remarks by the bailiff.

In point of form, all propositions are brought forward by the bailiff, although in a great majority of cases they originate in the recommendation of some committee, or the suggestion of some public officer or even of some private individual. The bailiff is bound to submit to the States any proposition whatever on his receiving a requisition to do so, signed by a certain number of members of the States.

At all meetings of the States, the bailiff presides, *ex officio*.

The sheriff is sent to inform the lieutenant-governor of the meeting, and attend him to the court if he comes. In that case, he sits at the bailiff's right hand, and has the right to address the meeting if he think fit. Before convening the States, the bailiff communicates with him respecting the day of meeting, and also lays before the Royal Court an account of the subjects to be brought forward. By the issuing of the *billet* some time beforehand, the douzaines have full knowledge of the subjects to be proposed, and are enabled to discuss and come to a vote on every detail. The vote thus come to as their opinion on the matters for discussion is not absolutely binding on their deputy or representative; but must have great weight in governing his decision and vote.

The power of the States was formerly confined to accepting or rejecting the measures proposed to them by the bailiff. Under the Order in Council sanctioning the reforms of 1844, amendments may be moved and carried provided they do not go beyond the original proposition. The meetings of the States are public.

In addition to their powers at meetings, much of the public business of Guernsey is conducted by committees of the States. Thus there is a Harbour Committee, a Roads Committee, a Sea-Works Committee, a Parochial Education Committee, and many others.

The public business of Jersey is also largely conducted by standing committees, consisting of members of the States. These committees are numerous, the following being the departments in 1862:—Public Roads, Defences, Harbours, Markets, Hospitals, Sewers, Lighting, Registration, Library, Police, Prisons, College, Lunatic Asylums and the Practice of Medicine. The number of members varies from three to twelve.

The States of Guernsey now perform a very important part in the government and management of public affairs. They decide what public works shall be commenced; whether har-

hours are to be constructed, roads to be made, or streets to be widened. If an Act of Parliament has to be opposed, it is from the States that representations are made to the Privy Council. From them petitions go to the queen on all public matters. All questions involving negotiation between the government and the island are brought before them for consideration.*

The States of Jersey are not convenable without the consent of the Governor. He not only presides, but he has a veto on all questions deliberated, and occasionally exercises this veto. He must, however, when required to do so by the bailiff or jurats, convene a meeting of the States within fifteen days of the reception of the requisition.

The States of Jersey pass *ordonnances* which have force for three years, and may then be renewed. Laws intended to be permanent are generally submitted to the sovereign in council for approbation. If approved, they are registered, and are then binding without further action. It is evident, therefore, that the States are nearly independent. The power formerly possessed by the Royal Court of Jersey to pass ordinances without the consent of the States was taken away in 1771, on the enactment of a "code," so called without deserving the name. The union of judicial with legislative power lost by the Royal Court in Jersey is still retained in Guernsey.

The power of the Royal Court of Guernsey, as exercised at the *Chef Plaids* or Chief Pleas, is a very remarkable feature in the constitution of Guernsey, and dates back to a very early period. We find it completely established and recognised as a matter of course at the period when the island records begin, namely, about the beginning of the sixteenth century. It pro-

* As instances of public questions thus brought before them recently, may be mentioned the filling up the office of the Queen's Contrôle, for some time done away with—the recent neglect of the interest of the islands in the commercial treaty with France—the construction of a lighthouse on the Hanois Rocks, and many others.

bably originated a century earlier. It consists of the bailiff and the jurats.

As a deliberative assembly, the Royal Court frames *projets de loi* for the approval of the States, but this is not a very ancient practice. The orders of the court, or *ordonnances* as they are called, are proposed by the crown officers, the enacting power resting with the bailiff and jurats. The lieutenant-governor may address the court, but has no veto, and the constables of the different parishes, and even private individuals, have a right to be heard in opposition. *Ordonnances* passed by the court take effect without the royal approbation, without the assent of the lieutenant-governor, and without the voice or concurrence of the general body of the people; but if intended to be lasting, they are laid before the States for their approval.

There would seem to be a limit, ill enough defined but tolerably well understood, in the practical exercise of this large power. The ordinances in force, however, relate to an almost indefinite variety of subjects, as for example,—the proceedings of the law courts—the highways and harbours—the sea-weed rights of different islanders, and the mode of levying dues and taxes. The [illegible]lutics and discipline of the militia are also regulated in the same way. Obedience is enforced by fines, and in some cases by imprisonment, and no appeal lies from the sentence of the court.

Besides the functions exercised at the Chief Pleas, the Royal Court of Guernsey, as a court for the administration of justice, is distributed into several branches. The Royal Court of Jersey is similarly broken up.

In both islands, the full court, or *Cour en corps*, requires the bailiff and at least seven jurats; but the ordinary court, *la Cour ordinaire*, or *Cour du Quartier* as it is most commonly called, requires only two jurats. The *Plaids d'Heritage*, or Court of Heritage, requires three jurats. Besides these is a court denominated the *Cour en Amirauté*. The sittings of these courts will be explained presently.

The number of advocates practising in the court of Jersey is six, and they are nominated by the bailiff without any examination, and even without having had a special education. There are also thirty *Ecrivains* or solicitors. In the court of Guernsey there are six advocates, but they must produce certificates of competency. In Guernsey, the advocate acts both as attorney and barrister. Advocates are also notaries, and frequently hold agencies of various kinds.

The practice of the law in the two groups of Channel Islands differs essentially and widely. The mere fact that in Jersey the judicial and legislative powers are, to a great extent, separate, while in Guernsey they are intimately blended, is sufficient evidence of this; but there are many other differences, not merely of detail, but in the very essence of the legal institutions. It is, indeed, not easy for two different nations to be more distinct from each other in many of their laws than Jersey and Guernsey.

The laws of the islands are derived from five sources, namely, —the Customary Law, Royal Charters, Orders of the Sovereign in Council, the Ordinances of the States, and certain statutes of the realm.

The ancient customary law of Normandy, *le Coutumier*, was compiled about the middle of the thirteenth century, and served as the foundation of the island laws. In the time of Queen Elizabeth, the governor, bailiff, and jurats of Guernsey, with the procureur, were required to make a book of their laws, but they did their work abominably. They took Terrien's "Commentary," then recently published, which consisted of the old Norman customs, together with all the modifications introduced by the kings of France, and gave a short notice of each chapter. This notice, however, was generally no more than "we use this," or "we do not use this;" and the whole was executed without intelligence. A better work of the same kind had been sent in by a former commission of the bailiff and jurats, but this does not

seem to have been so satisfactory to the governor, for the worst was selected, and it is now known as *l'Approbation des Lois.* This code, if so it can in any sense be called, is referred to in the courts of Jersey, but seems to have little authority.*

Of royal charters, that supposed to have been handed down from the time of King John has been already alluded to, and has no value as an authentic document. There are some other charters affecting the rights of the islanders, and these have the force of law.†

Orders in council were formerly held to be supreme, and have long been quoted and referred to in this light in both the islands. A recent decision of the Council, however, in the matter of certain Jersey orders has involved this point in great obscurity. It had previously been considered that, after the issue of such orders, there remained only an appeal to the sovereign to know his further pleasure, after which the registration of the order must proceed, and the case is closed.

With regard to Acts of Parliament, the case is peculiar. According to the theory of English lawyers, an Act of Parliament, when passed, is operative *proprio vigore,* and does not depend on any order from the crown. In the islands, the theory is that no Act is operative there until it has been forwarded to them by an order in council and registered.

The doctrine held by the Council is set forth in every order transmitted. It is that the Act is directed to be sent, not in order to give it validity, but that the people may know that they are bound by it; and the conclusion arrived at by the

* On the occasion of a late enquiry, the commissioners, Messrs. Ellis and Bros, pointed out the faultiness of this code, and urged it as a reason why the Royal Court should be deprived of all power. The Bailiff of Guernsey (Mr. P. S. Carey) very logically suggested that, according to this argument, it was the Council, as the higher and permitting power, that ought to be deprived of its right of legislation.

† Of late years their authority has been called in question, but the generally received opinion is that they are authentic.

islanders is that, until it is sent, they need not know that they are bound by it. Practically as between the imperial government and the islands, it is considered that an Act of Parliament is not in force till it has been registered, so that Acts intended to come into operation are transmitted by orders in council for the purpose of being registered. The obligation to register when thus transmitted is regarded as peremptory. The registration is effected in Jersey by the States, and in Guernsey by the Court.

In the year 1786, trial by jury was established in Jersey in criminal causes. The jury, however, is not empanelled until the criminal has been *criminellement endité*, after a full inquiry, before the Royal Court. It consists of more than twenty-four persons, summoned the evening before the trial by the procureur general; one-third from the parish in which the crime was committed, the remainder in equal numbers from two adjoining parishes. This institution has something of the nature of the grand jury in England, and twenty voices are required for a verdict of guilty.

The Royal Court in both islands exercises summary jurisdiction in all minor offences, and decides all questions by vote. The bailiff sums up the evidence, but is not expected to point out the state of the law. The bailiff, as already intimated, collects the opinions of the jurats, and declares it,—having a casting vote, but not otherwise voting.

Of the subsidiary courts, or courts formed by subdivision from the Royal Court, there are, in Guernsey, two kinds,—the *Cour Ordinaire* or *Cour du Quartier*, and the *Plaids d'Heritage*.

There are three terms, or *quartiers*, in the year, to each of which four jurats are assigned in rotation. Two constitute a quorum, and make what is called the *Cour du Quartier;* this court sits once a week (on Thursday) all the year round for police purposes (both for summary conviction and committal for trial), and once a week (on Saturday) for civil business.

The full court sits during six weeks of every quartier on Mon-

day for personal action, on Tuesday alternately for appeals and for the *Plaids d'Heritage*, and on Saturday for the trial of indictable offences, and other public business. Special days are not unfrequently fixed for important cases.

Appeals are permitted from the *Cour du Quartier* to the full court, only when the sum in dispute does not exceed £10, and when witnesses in the inferior courts have not been heard *vivâ voce*. There is a further appeal to the sovereign in council, in cases where the sum in dispute exceeds £200.

The Court of Heritage entertains suits regarding real estate and debtors' estates in bankruptcy, either voluntary or enforced. The laws in this matter are very peculiar and complicated, but seem not ill-adapted to a small society. At least three jurats must be present with the bailiff at the sittings of this court.

The *Cour en Amirauté* (very imperfectly translated Admiralty Court), means a court to hear causes brought in a summary manner against seafaring men, who might be gone on the morrow. Matters connected with bills of exchange, and other pressing commercial business are of this kind; and the court has ultimately been made to include all matters that admitted of summary adjudication.

Cases are tried here at all times, in and out of term, usually on Saturday, but also on every court day, besides on extra days. The bailiff and two jurats form a court, but any jurats may assist and vote, cases being decided by a simple majority of voices, the bailiff having only a casting vote.

The proceedings are carried on in the courts in all the islands in the French language; but English suitors may address the court, or examine witnesses, in English. The bailiff comments on the evidence or arguments of the pleaders, collects the opinion of the jurats, and declares the sentence. Except in the Court of Judgments, the opinions are expressed by the bailiff and jurats publicly.

Pleadings in these courts are very simple. The plaintiff must serve on the defendant a summons, or declaration, setting forth the nature of his claim, and in some cases the reasons on which it is grounded are added. If not sufficiently definite, the declaration is sent back by the court for amendment. If the defendant means to plead any objections by way of demurrer or special plea, these are at once heard, and disposed of. If the parties join issue on the merits of the case, the court hear the parties, or their counsel, and decide. If the case be intricate, the parties are sometimes sent before one of the jurats, who reports, condensing the matter in dispute, and presenting the points to the court for decision.

The Court of Police may be held at any time, Thursday morning being the regular day. The bailiff and two jurats must be present. No punishment more severe than one month's solitary confinement is inflicted, but bail may be required for the good conduct of the accused. In default of bail, if the accused is a stranger, instead of being committed to prison, he may be ordered to quit the island.

The Criminal Court requires seven jurats, with the bailiff, and before it are tried not only cases strictly criminal, but cases of libel and slander, assault and infractions of local ordinances.

The forms of proceeding in criminal cases, which, till very recently, were exceedingly anomalous and objectionable, are now nearly assimilated to those of the English courts. The same laws of evidence and the same systems of examination and cross-examination are adopted on the trial, but there is a difference in the style of the preliminary examination of the prisoner.

It must be admitted that the people of both islands, long accustomed to their own peculiar institutions, are not only unfavourable to any radical change, but unfitted for it by their habits and education. The communities are small; and, in such cases, there is a certain practical limit to the mischief

arising from old and imperfect institutions that is not found to exist in larger countries.

The practice of the law courts in Jersey has, however, long been felt to be exceedingly unsatisfactory, and interference from without may become necessary to enforce a change in some departments. The French language, also, which has generally been employed in the courts, has become inconvenient in that island, owing to the large number of English, Scotch, and Irish residents. This is, in some measure, remedied by the proceedings being carried on in either language by agreement, but much trouble and confusion is caused by it. As most of the islanders now understand English, the time for a change in this respect is doubtless very near.

In Guernsey, there is much less that is objectionable in the practice of the courts, and a feeling prevails that substantial justice is generally obtained. Still, where so much that is personal interferes in every case, and where personal and family influence cannot but be felt, it is not astonishing that reasonable complaints are sometimes heard.

The court at Alderney is altogether subordinate to that of Guernsey. It consists of a president, called the judge, six jurats, two crown officers, the procureur and the *contrôle*, whose office is perennially vacant, the greffier, or register, the prevôt, or sheriff, and the *sergent*. There is a Court of Chief Pleas as in Guernsey. The jurisdiction in matters of correctional police is final where the offence can be punished by a month's imprisonment, or a fine not exceeding £5. In more serious cases, it is limited to preliminary investigation as to the facts of the crime, the case being referred to Guernsey if there is sufficient evidence to justify a trial. In civil cases, the court has jurisdiction without appeal where the sum in dispute does not exceed £10. Above that sum there lies an appeal to Guernsey. The ordinances of the court in Alderney are limited to police regulations and the repair and maintenance

of roads, the penalty inflicted being a fine. An appeal lies to Guernsey.

The court at Sark consists of the seneschal, or judge, or his deputy, the prêvot and the greffier. They are appointed by the feudal lord, or seigneur. The seneschal has complete jurisdiction in petty offences, but his right of punishment is limited to a fine of three livres tournois (about four shillings) and three days' imprisonment. Where more severe punishment is called for, the case is sent to Guernsey. There is a Court of Chief Pleas in Sark, the members being the holders of forty indivisible tenements, into which the land is divided. The lord must be present, either personally or by deputy. The judge presides. The consent of the lord is necessary for the enactment of an ordinance.

The small islands of Herm and Jethou are considered as part of Guernsey, and offences committed there are tried either in the police or superior court of that island according to circumstances.

In the division of property, the eldest son takes a certain portion of the estate with the principal house. The remainder is divided among the sons and daughters, each being charged with his or her due proportion of mortgage debts. Real property is not devisable by will, except when the devisor has no child. Widows enjoy one-third as usufruct. A widower enjoys his deceased wife's estate, unless he remarries, in which case it reverts. Children born out of wedlock may be legitimised by subsequent intermarriage of the parents.

A father cannot, during the term of his own life, give absolutely to any child a larger proportion of his real estate than would come to him. Any gift of this kind can be annulled after the death of the father unless the action is delayed more than a year.

All mortgages and other charges on real property are registered, and may be known. In the event of an estate being

over-mortgaged, the last mortgagee can only recover by taking to the estate on payment of the debts.

Should the last mortgagee refuse, the estate is offered on the same terms to the last but one, and so on till it finds a proprietor. Undisturbed possession during thirty years is a good title.

Lands sold for money can be claimed by the lord of the manor, or even by the nearest relations of the seller, on payment of the purchase-money.

Personal property beyond one-third of the estate can only be willed by those who have neither wife nor children.

Natives and strangers are alike liable to arrest in the islands for debt, the pursuer having the right to prevent the debtor's departure from the island. The creditor may seize either body or chattels, but not both, nor can money about the person be seized.

For debts contracted out of the islands, arrest is permitted on evidence properly authenticated either by the creditor actually following the debtor in person or by giving a power of attorney to an islander.

In Jersey, arrest may take place without proof or affidavit, and unless the bail offered be accepted, imprisonment will follow.

Encroachments on property are sometimes met by a very peculiar exclamatory appeal, called "Ha! Ro!" repeated thrice. It is considered to be the remains of an old appeal to Rollo, Duke of Normandy, and is followed by action. If the encroachment is proved, a fine is imposed, and no islander would venture to resist this curious form of injunction which has been made, in some cases, within a few years of the present time.

In Jersey, game is followed by every one at pleasure; but actions for trespass lie against those who wilfully trespass. In Guernsey, there is, practically, no law on the subject. During winter, on fine days, the fields and roads are dangerous on account of the continued popping from guns in the hands of boys

and men. Accidents are frequent, but no check is thought of. Trespassing is practically considered lawful; and though there are means of punishing offenders, they are rarely, or never, put in force.

The peculiar nature of the island customs with regard to the rights of real property are such that no one should purchase land in the islands, or even lease a house for more than three years, without sound professional advice. All parts of the property of a vendor are jointly and severally liable for all debts charged upon the whole, or any part, so that it may happen that, after a piece of land is purchased and a house erected on it, the purchaser may be deprived of his property because the vendor subsequently becomes bankrupt, and the other parts of the vendor's estate will not discharge the debts secured on it. So also in the event of a lease being granted, if the lessee should afterwards become insolvent, the creditors can dispossess the tenant notwithstanding the covenant of the lease. All this arises from the feudal manner of regarding real property as being held by the owner in trust for society and the lord, rather than as absolutely his own, to be dealt with as he pleases.

In Jersey, land is held in various ways, either as farms on lease paying annual rent, or as freehold; but the lease is limited to nine years, and the freeholds are subject, in many cases, to an annual payment, representing the interest of part of the purchase money left unpaid, and therefore a kind of mortgage debt. This is sometimes a number of quarters of wheat, and varies with the price of that article. The quarter of wheat is estimated generally at £20, and the annual payment on the quarter is then twenty shillings. Obligations of this kind are commonly bought and sold under the denomination of "rents;" and the mode of tenure, though complicated and apparently inconvenient, is not without certain local advantages. In Guernsey, the land is rarely leased, owing to the difficulty of binding the legal heirs of an estate to agree to the lease in the event of the

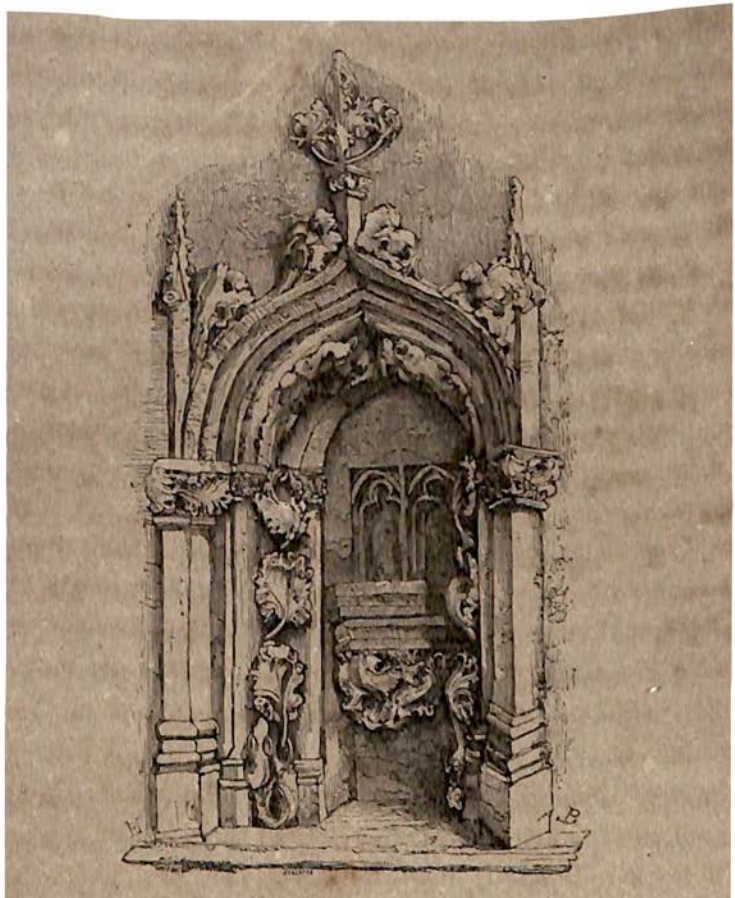
death of the actual lessor. "Rents" are payable either in money, at a rate per quarter, fixed each year, or in kind. Capons and fowls are also valued, being payable under certain contingencies.

The descent of landed property is governed by different laws in Jersey and Guernsey. In the former island, on the death of a proprietor, the eldest son takes the house and about two acres of land adjoining, with one-tenth of the real property, including rents. The remainder is shared,—two-thirds among the sons, and one-third among daughters; but in no case can a daughter take more than a son, the sons, when the number of daughters is disproportionately small, being able to insist on equal division.

In Guernsey, the eldest son inherits only about one-sixth of an acre of land with the house. He is, indeed, at liberty to keep possession of all land to which he can have access without crossing the public road; but, for this, he must pay to his co-heirs a price assessed generally at more than he can afford to pay.

The person and goods of a stranger are exempt from arrest, in either of the islands, until he has resided there a year and a day. But this exemption only applies to simple contract debts incurred out of the island.

It is one of the most important privileges of the Channel Islands that, in all cases where the matter in dispute occurs within the island, the causes should be heard and adjudicated there, subject only to appeal to the sovereign in council. This is sometimes a great hardship to strangers. Even the act of *habeas corpus* has only lately been registered in the islands, and, in very recent times, has been successfully resisted. The law cannot be said to be settled with regard to this important privilege of Englishmen. It must, however, be added that the principle and practice of this act are closely interwoven into the island laws.



NICHE IN THE CHURCH OF ST. PETERS PORT, GUERNSEY.

In ecclesiastical matters, both islands are now placed under the Bishop of Winchester. Each has a Dean, whose powers are vague and very limited; and for a long time after the Reformation, there was little episcopal or other ecclesiastical superintendence over the rectors. The advowsons, although now all in the gift of the crown, belonged originally to certain religious houses in France, and were only taken occasionally into the king's hands in time of war. They were annexed to the crown on the suppression of the alien priories in the time of Henry V.

Originally, of course, subject to the head of the Roman Catholic Church, the Reformed Church in the Channel Islands

assumed the more severe and extreme phases of Puritanism; and both in Jersey and Guernsey, but especially the latter, the Presbyterian form and discipline introduced during the reign of Queen Elizabeth has influenced the feelings and habits of the people even to the present day.*

In each of the larger islands the dean is one of the rectors; but as the emoluments are extremely small, and the duties also trifling, this can hardly be regarded as a plurality. No other plurality is admitted.† The livings are small, but the objects of much anxious inquiry when a vacancy occurs. Of late years several district churches, in which the English service alone is performed, have been added in the town parishes both of St. Helier's and St. Peter's Port. In the country parishes the French language is generally retained; but at least one English service on each Sunday has lately become a common custom.

The rectors in both islands have seats in the legislature.

There is an Ecclesiastical Court in Guernsey, consisting of the Dean as president, the Rectors of the island, the Queen's Procureur, and four other Advocates, who are Proctors, a Registrar, and an Apparitor or Beadle. The Ecclesiastical Court in Jersey consists of the Dean‡ as Judge, and eleven Rectors as assessors, a Proctor, a Greffier, an Advocate, and an Apparitor.

---

* This is seen in many ways, not only in the multitude of sects, but in the frequent prayer meetings, extra services on week-days, both at churches and school-rooms, and branch meetings of various religious societies. These are resorted to, very generally, by all denominations, and in some of the most important services of the church there is a marked indifference to the ordinary forms of the establishment elsewhere. It is strange to see the principal cemetery of the town parish in Guernsey unprovided with a chapel, and still more strange to find that funerals are there hurried over entirely in the open air, the officiating minister being without a surplice, and a large and most touching part of the ceremony entirely omitted.

† At present the parishes of the Forest and Torteval in Guernsey are held together, but it is understood that they will be separated when a vacancy occurs.

‡ Technically, the bishop's commissary is the president in Jersey, but the dean is also commissary.

When we consider what the constitution of these bailiwicks is, it is almost needless to remark that it stands alone. In its working form, it is, doubtless, an oligarchy, checked by public opinion from below and by the crown and parliament from above. Yet it is essentially an insular one. The bailiff's is an insular appointment; and the jurats rest indirectly on the ratepayers.

It is, at one and the same time, a vestry, a convocation (as shown in its clerical element), a municipality, and a parliament. Besides this, it is a constitution, under a suzerain. Thirdly, it is a constitution of bilingual islands, a fact which is of a primary importance when we consider that the political doctrines, in general, are those of Englishmen, whilst the language of the law is French. Fourthly, it is a constitution where the municipal element, from the accumulation of wealth and intelligence in a single capital, has an inordinate preponderance. It began in the feudalism which made over the soil of England to a batch of Norman nobles, and which was essentially military, and grew up under a commercial system like that of the Hanse Towns. It began with a Romanist, it has continued with a Protestant Church. It began with fiefs, and it has developed a system of practical freeholdership. It is complex, no doubt: but its complexities are familiar to those who have most to do with them, and who alone can measure their extent. Whether its warmest advocate could say that it has made the prosperity of the islands is doubtful. It is only certain that its greatest opponent could never say that it has interfered with their progress. If it have done but little in the way of positive good, it has done less in the way of mischief. Be it ever so bad, it has not been so powerful an instrument of evil as to prevent an extraordinary amount of physical well-doing being developed in spite of it. If not a model constitution, it is not one that should be tampered with. It has the one great element of stability—the confidence of those who know it best, and are most interested in it. Like all constitutions, it cannot be judged by what is on paper. Like all

constitutions, it works better than its worst, and worse than its best parts, incline us to expect, *a priori*. Like all constitutions, it has a tendency to mend itself in its weak, and to deteriorate in its good, points. Like all constitutions—real constitutions that have stood the wear and tear of time and events—it has its tendencies to be affected by circumstances, and to adjust themselves to them. Like all constitutions, it is open to objections on two sides. The islander thinks it too oligarchic: the Englishman, too provincial. Yet it is one which has grown up in its own way as much as any constitution in the world.

Of the imperial power the use appears to have been moderate; and that from any point of view. If the constables, the nominees of the people at large, have failed to uphold the democratic element, the loss on the side of the crown has been nearly equal—the rectors, the nominees of the governor, being nearly reduced to a state of legislative unimportance. They are appointed, indeed, by the governor—but as far as parliamentary power is concerned, they are no more than the incumbents of ten livings in Craven, during an election for the West Riding of Yorkshire. The governor himself (especially in Guernsey) is in other respects limited to his functions as a military commander in an unusual degree. A very large proportion of the votes have either a direct or an indirect authority from the ratepayers—the deputies a direct, the jurats an indirect one—the body by which the jurats are elected being mixed, as well as intermediate. In Jersey the jurats are elected directly by the people. In Guernsey, so far as he gets the vote of a douzanier or a constable, the jurat sits as a representative of the people, exercising its suffrage by the way of double election; so far as he is returned by the vote of a rector, a bailiff, or an attorney-general, he is indirectly a nominee of the crown. The analysis, however, of the Administrative States, taken purely and simply, is essentially popular.

Nor is the connection with France, even at the present mo-

ment, absolutely and entirely dissevered. In this, no reference is made to the merely social ties of language and commerce; which, however, in a case which must be only recognised as a bare possibility (that of hostility towards England encouraged by manœuvres not unknown in France), must be borne in mind. There is still a definite, and, at the same time, a legitimate bond between the islands and the old duchy—France as it is at present. The law is French, and in England there are no means appointed for learning its details, principles, and practice. Hence it follows that the legal schools are in France. The Channel Islands' Lincoln's Inn, the Channel Islands' Temple is in Normandy, or Britany; at Caen or Rennes, as the case may be. Here the advocates, or barristers, who are limited to six in each island, study their profession; and it is well they should. Training schools in England, endowments at the universities, exhibitions (or what not) at the inns of court, are no substitutes. At Rennes or Caen the French law must be studied, and, although the island law must be picked up afterwards as circumstances admit, it is on certificates from the professors there, that the *locus standi* of the island advocate must be founded.* With this kind of education and preparation for his work, the holder of the certificate takes an oath that he will faithfully advise his client, that he will undertake no cause which he knows to be bad, that he will adduce in his pleadings nothing which his clients have not affirmed to be true, that he will advise the court of his king's rights, and that he will not make a bargain with his client, into which any portion of the matter of dispute shall enter. With these preliminaries he may practice, and that with a wide margin. He may combine with his office as advocate that of notary. He may also hold cheap many points of legal etiquette, which, either for good or bad, prevail in England. Still, the number of advocates who may do this is limited; and the profession gains in its oligarchic, what it may lose in its aristocratic, character.

* It has already been observed, that this course of legal education is not *necessary* in Jersey, no certificate being required on admission.

CHAPTER XXIV.

THE MANNERS AND CUSTOMS OF THE INHABITANTS, AND THE PRINCIPAL PUBLIC INSTITUTIONS.

ST. MARY'S CHURCH, JERSEY.

Manners and Customs.

It may be supposed that, in islands which, till lately, held little communication either with England or France, which have been governed by their own laws, and which preserve their ancient institutions, there should be customs and habits interesting in themselves, and remarkable as bringing down to modern times remnants of a former condition. Very little, however, of this

kind is now to be traced, and it would seem that the last quarter of a century has nearly swept away what few peculiarities formerly existed. Still, no one can go into the cottages and mix much with the country people without observing some characteristic points. Each cottage and old farm house has, in the kitchen or principal sitting-room, a wooden frame spread with dried fern, called the "lit de fouaille," or fern bed, on which the inhabitants repose in the evening. This custom is, no doubt, French, and very old. It is connected with all the habits and traditions of the people, and comes into use on such occasions as the vraic harvest, and on all festivals. The older people more especially resort to it; and though rough, it is by no means an unsightly piece of furniture. It corresponds with the chimney corner in an old English farm house where wood is still burnt, and where pit-coal is an unheard of novelty.

In Jersey and Guernsey, in the principal manorial residences, or frequently in some small outhouse or summer-house adjoining, there are held, from time to time, manorial courts, at which certain feudal customs are still retained. These are occasionally interesting. Thus, there may be seen in the court-yard of a farm, not far from Richmond Barracks, in Guernsey, a well-worn granite bench, in the open air, with a stone seat detached, in front of a small stone table, at which, within the last two years, the manorial court was duly held, the representative of the lord of the manor presiding, and the greffier seated apart at the little table. The fine manor house of St. Ouen, in Jersey, and several others, contains feudal relics and some portions of the mediæval buildings; but these are for the most part either in poor condition or too unimportant to possess great interest. Even the churches, as already explained, are generally without much that is important. Interesting exceptions occur in the case of the porch of the Vale church (see page 559), which is remarkable for style as well as execution, and the porch of St. Martin's church (page 57), both in Guernsey.

One or two of the churches in Jersey (St. Mary's and St. Lawrence's among the rest), also contain interesting specimens of architecture. These are more valuable for comparison with similar work in Normandy and England than for their intrinsic merit. There is some very beautiful and rather florid work in the interior of the town church in Guernsey. A niche, figured in page 541, affords a good example of its style.

Of the island churches at present—so far as this subject belongs to the present chapter—there is more interesting matter to be found in their general picturesqueness, in spite of neglect and injury, than in their special details. Few scenes are more characteristic than that represented in the illustration at the head of this chapter, where the little country church, simple and even ugly enough in many respects, lies embosomed among trees, preserving all that is wanted for beauty to the artist, though without much left for the lover of church architecture.

While the better houses and churches are thus nearly destitute of all that marks national character, the smaller farm houses are not unfrequently much more interesting. The cottages are generally well built of squared granite, and their doorways in Guernsey are remarkable for the round Norman arch. A sketch of such a doorway has been given in a former page (see page 60). In Jersey the round arch is very rare. With these exceptions, however, and the general style of the cottages, which is superior to what could be expected from their present inhabitants, there is little to be noticed even in this respect.

A fine specimen of the style of architecture of the towns is given in the engraving which forms the title of the present division of this work (see page 457). It is a view taken about twenty years ago, of a narrow passage leading out of the High Street of St. Peter's Port, Guernsey.

The Court Houses in all the islands are plain buildings, destitute of any architectural effect. That in Guernsey is detached, but resembles only a large house of ordinary construction. The

Royal Court House of Jersey is a plain building in the Royal Square. At Alderney there is also a Court House of no pretence.

Costume is but little preserved in the Channel Islands. A peculiar and not very ornamental bonnet is occasionally seen in the market-place of Guernsey, covering the head of an ancient woman clothed in a short bedgown of coloured print, over a stuff petticoat. A figure with a slightly-different physiognomy, clothed in nearly the same style, is perhaps somewhat more common in Sark. Beyond this, little can be described.

The country-people and the native shopkeepers in the towns, both in Jersey and Guernsey, are somewhat independent in their manner towards strangers, but very rarely uncivil or disobliging. Their want of polish is, however, remarkable if contrasted with that of the same classes of French. The inhabitants of the small country farms and their labourers live, for the most part, simply, and on food yielding but little nourishment, cabbage and conger soup being standard dishes, and meat, except near towns, rarely seen. One consequence of this is a somewhat stunted development, readily observed by a stranger. The people of both sexes and of all classes dress comfortably and warmly, and, as may be imagined from the returns of the savings banks, are in the habit of hoarding, and are exceedingly careful in regard to money matters. Even those who have secured incomes sufficient to render them independent, are generally parsimonious. The extreme division of the land and the nature of the tenure of landed property induces almost all the resident heads of families, who are able to save more than a few pounds, to invest either in land or 'rents.' There are always more buyers than sellers of such property, and the price is generally very high. The Guernsey 'quarter of rent' is estimated as worth, on an average, twenty pounds currency; and those who cannot invest in land, purchase these small rent charges on land, which are broken up into the smallest fractions of a quarter. Within the

last few years a law has been passed in Guernsey permitting the holders of land, saddled with these small and fractional charges, to redeem them at a fixed price. The passing this law was not, however, effected without serious opposition, extending even to an expensive appeal to the Queen in Council.*

The higher ranks in both islands assimilate in their general habits to the educated classes in country and cathedral towns in England and elsewhere. There is, however, a perceptible difference. Cliques naturally, and perhaps necessarily, exist in a society where the whole private history of everybody is known and remembered. Owing, also, to the small number of families and the constant intermarriages of their members, nearly all those mixing in daily intercourse are cousins, more or less nearly related. Strangers cannot expect, nor would they perhaps always desire, to be admitted to the intimacy thus induced; but they are hardly prepared, at first, for the apparent neglect that is a natural, if not inevitable, consequence of this, and to which they are often exposed. They are, in fact, especially in Guernsey, admitted rather than encouraged. This is noticeable in the ball-room, where matters are left to take their own course, and English ladies have but little chance.

At a period not very distant, society in Guernsey (to which island these remarks chiefly refer) grouped itself into two divisions,—one, including those families who prided themselves on ancient descent and landed estates, and who regarded themselves as the *pur sang*,—and the other, those whose fortunes had chiefly been made during the late war, or in trade. The former were called *sixties* (apparently from the number of families at one time admitted within the ranks), the latter were the *forties*. It is the fashion now to ignore these names, but the feelings

* The rent charge, or annual money payment in lieu of wheat due for each quarter of rent, has varied within the last ten years from fifteen to nearly twenty-eight shillings currency in Guernsey. In Jersey there are two kinds of rents, worth in 1862 sixteen shillings and eightpence, and eighteen shillings currency respectively.

that prompted them undoubtedly exist, and are sometimes very plainly expressed. The educational advantages open to the forties by their ample means, and fully made use of by them, have, however, effectually done away with any difference in manners that may formerly have been noticeable.

The divisions of society among the natives in Jersey have been quite as much marked as in Guernsey, but are more political than social. They are known as the Laurel and Rose factions respectively. As, however, in Jersey, the English residents form so large a proportion of the inhabitants as to make up several distinct societies, there is much less dependance on the islanders than in Guernsey, where the English element is extremely small in comparison, and not sufficient to act independently.

A certain kind of hospitality is freely shown to strangers who bring good introductions, and visits are readily interchanged with them; but owing, no doubt, to the closeness of the family ties already alluded to, these visits rarely result in much sociability or neighbourly intercourse with those who take up their abode in the island for a season. In this respect, country society in England is decidedly superior.

The chief inducement, at present, to a residence in the Channel Islands, independently, of course, of the reasonable wish to investigate their natural beauties, is hardly so much their cheapness as the smallness of the society and the much simpler style of the various establishments. Rents are hardly lower than in England, and food is scarcely cheaper. Wine, tea, and tobacco, being free of duty, are cheaper, but rarely good. Good servants are extremely difficult to obtain, and their wages are not lower than in English country places. In all these respects, the west of England is probably quite as economical. The visits of the tax-gatherer, however, are unknown; and, for some reason or other, many of the small luxuries of life are obtainable at little cost, and many others which are more expensive are, by common consent, done without. There are few persons

in either of the islands with incomes that would, in England, be considered large, but a very considerable number of families provided with moderate incomes, which are rarely equalled by the family expenditure. Most of the sons of island families leave the islands early, many of them going into the army or navy, and others into professions, but with that peculiar feeling which is so often noticed in the inhabitants of small countries and mountainous districts, these almost invariably endeavour to return to their early home, first to marry a cousin, and afterwards to reside, when they have realised a small competence. The island families are thus continued and the familiar names repeated in every variety of combination.

Militia.

The feudal character of the island customs is nowhere more clearly shown than in the establishment of the militia. Every male between the ages of seventeen and sixty-five in Jersey, and between sixteen and sixty in the other islands, is bound to render man-service to the crown, and this extends not only to the islanders by descent, and those born in the islands during the residence of their parents, but to all persons who derive income from any employment or trade carried on in them. The extent of this service, in law, is that each man should provide himself with arms and ammunition, attend drill when required, keep watch and guard round the island by night and day, repair the bulwarks, keep the garrison when no troops of the line are in the island, and perform all other services for defence. In Jersey there are six and in Guernsey four regiments of the line, and in Alderney and Sark several companies. There is also a regiment of six companies of artillery in Jersey, and one of four in Guernsey, besides those of Alderney and Sark. Subject to this service, the islanders are altogether free from other claims, and during the late war were not liable to impressment into the navy, nor can any man be required to leave his own island. Even in

theory, however, the extreme service can only be exacted in time of war and very extraordinary emergencies. Neither does it appear that the militia have ever been subject to martial law.

In ordinary times of peace the dress, arms and accoutrements, as well as ammunition, are all supplied by the sovereign; and the days of drill and practice, whether rifle or artillery, are limited to a very small number. There are, however, always a certain number of field days, and all the regulations are capable of modification by the lieutenant-governor for the time being. The lieutenant-governor has it thus in its power to harass the population if he should think fit to do so. The total strength of the Jersey militia at the present time (1862) is about ten thousand men; and that of Guernsey, Alderney and Sark is five thousand one hundred and thirty-three.

Strangers resident in the islands, and not deriving an income from any employment carried on there, are, in time of peace, altogether exempt. During war, they are, however, personally liable. The horses, carts, and other means of conveyance, of all persons are liable to be taken in time of war for the service of the crown in the defence of the islands.

Educational Institutions.

In the islands of Jersey and Guernsey there are several public institutions for educational, charitable, sanitory and other purposes, that require brief notice. Of these, some are of considerable antiquity, but most of them are due to the liberality of modern times. Some are exceedingly creditable—others rather the contrary.

Victoria College, in Jersey, is of recent institution, having been first opened for instruction in 1852. It is a handsome building, well placed, overlooking the town on the eastern side, and from one direction is extremely picturesque. It is surrounded with trees and public walks in terraces. There is an excellent staff of teachers, and the number of youth in course of

education is considerable, but it possesses few special advantages at the universities of Oxford and Cambridge.

Elizabeth College, Guernsey, has arisen out of a school founded in 1563 by Queen Elizabeth. Although endowed with lands which have since become valuable, and with wheat rents, it was so badly organised and so much neglected as to be almost nominal until the year 1824, when means were adopted for placing it on an efficient footing. The present structure, unfortunately harmonising in its utter tastelessness with other modern buildings in the island, was erected at great cost, and presents a bald, plastered, unmeaning face, too prominent to be overlooked. In addition to its endowment, which secures excellent instruction at a cheap rate (the College dues amounting only to £12), there are annual prizes to the value of more than £100, and two exhibitions to the English universities,—one given by the Queen, value £30, and the other by Lord de Saumarez, value £15. The management of the College is entrusted to nine Directors, subject to the permanent visitation of the Bishop of Winchester and two special visitors appointed by the crown. The local directors are the Dean, *ex officio*, two appointed by the lieutenant-governor, and six by the States, who serve six years. There is a Principal and a Vice-Principal, clergymen of the Church of England, two other masters, and two examiners from Oxford, who attend annually at Midsummer. The number of scholars is very large, and the success of the students who have proceeded to the English universities has been remarkable.

There are small funds reserved for another educational institution called the "Petite ecole." They are not sufficient to create a useful establishment, and are for the present being accumulated.

In all the parishes in the various islands there are schools for the education of the children of the farmers and small proprietors. In these instruction is given in French and English.

They are tolerably well conducted, and there is no reasonable excuse left to parents for the neglect of the education of their children. On the whole, as will be seen in the statistical returns in the Appendix, the attendance at schools is, especially in Guernsey, large compared with the population.

Societies and Associations.

Guernsey boasts of a Mechanics' Institute, originally designed to include systematic instruction by lectures and a museum. For several years past regular lectures have been given up, and the museum has been left to the voluntary assistance of a few working naturalists, without much reference to the Institution. The Institution is now merely a circulating library and a reading room.

The museum is remarkably good in all respects as a local collection, and might serve as the nucleus of an important addition to the attractions of the island. It is particularly rich in natural history, containing a series of birds, insects, and shells, all in good condition, well arranged and well named. To Mr. Gallienne and others of the active members of the Institution, this is chiefly due. It is much to be regretted that an attempt recently made to establish the museum on a sure basis connected with the States, has not met with a response. Liberal offers of assistance were made from many quarters, and there seemed a certainty of success, had the ruling body felt the importance of so useful an institution.

A very valuable and interesting private museum, chiefly of archæology, is the result of great labour and unwearied personal research on the part of F. C. Lukis, Esq., of the Grange, Guernsey. Mr. Lukis liberally admits to his museum all persons interested in scientific or natural history pursuits. Besides the archæology, there are in this museum many specimens of the geology and other departments of the natural history of the islands.

Jersey has no museum. There is a public library, but it is

understood to be badly kept up and little used. It was founded in 1736 by the Rev. P. Falle, whose history of Jersey is well known. It contains from four to five thousand volumes. A small subscription of five shillings per annum is required from those who desire to avail themselves of its resources. Little interest is felt in scientific pursuits by the majority of the inhabitants, native as well as resident. There are, however, a few important exceptions.

The Royal Agricultural and Horticultural Society of Jersey was established in 1833, and has been very successful in creating a spirit of industry and emulation among the small farmers, premiums being given with a view to encourage the improvement of agriculture, the breed of cattle, domestic economy, cleanliness and comfort in cottages, and industry and good behaviour among servants and labourers in husbandry. Exhibitions are held annually of cattle and other stock, and three times a year for horticultural produce. As many as 203 head of cattle were exhibited in 1860, and nearly as many in 1861, besides horses and other beasts. The horticultural exhibitions are also very good.

A somewhat similar institution exists in Guernsey on a smaller scale. There is no doubt that improvements, both in breeding and in agriculture, have followed the establishment of these societies. They are well kept up and seem popular.

There are Chambers of Commerce in both islands, and in each these associations have been productive of useful results. It is to be regretted that they cannot combine with greater effect and arrange with the authorities in England for an improvement in many matters,—such as postal communication and commercial intercourse, in which the islands are lamentably deficient.

There are Working Men's Associations both in Jersey and Guernsey. The latter is particularly successful and popular, being aided by many of the gentry and clergymen of the island, who give weekly lectures that are extremely well attended.

There is a library and small collection of apparatus and diagrams that have been gradually accumulated. The library has recently been enriched by a bequest, and is becoming valuable.

Jersey possesses two musical societies, both of recent date. Their object is to encourage and promote musical taste among the general population as well as the higher classes. Nothing of the kind has been attempted in Guernsey.

There are Young Men's Christian Associations recently established, both at St. Helier's and St. Peter's Port.

Savings Banks.

The Savings Bank in Jersey was established in 1834, and is protected by Act of Parliament. It has been eminently successful and exceedingly useful; no less than 90,659 deposits, amounting in all to £772,359 5s. 6d. having been made in the twenty-seven years that had elapsed at the close of 1861. On the 1st of January, 1862, the number of accounts open was 10,546, the balance due upon them being £248,992 10s. 1d.

In Guernsey, the Savings Bank is of much earlier date, and so long ago as in 1826 the amount invested was upwards of £10,000. At the present time the accounts are as numerous and the investments quite as large as in Jersey, in proportion to the population of the island.

A Penny Bank, for savings of amounts too small to be received at the ordinary savings banks, was opened in Jersey on the 1st of January, 1862, under very favourable auspices. As many as 1516 depositors, of all ages, at once availed themselves of this institution. Guernsey had previously led the way in this good work also, and the Penny savings bank established there in 1860 is now very flourishing.

Charitable Institutions.

There is an excellent charitable fund in Guernsey, originally founded by Monsieur Jean De la Court in 1588, and since in-

creased by various donations, for the purpose of relieving occasional distress. It is administered by the Royal Court, and the object is for the benefit "des pauvres et necessiteux tant de la dite isle (de Guernsey) qu'au relief de tels pauvres habitants auquel adviendroyt que leurs maisons seront brûlés, pour les aider à les faire rédifier. Et aussi estre employez au relief de tels pauvres prisonniers, ayant esté pillez à la mer ou autres pauvres mariniers qui auroyent perdu par naufrage ou autrement leur navire ou vaisseaux ou pour subvenir a l'entretient, et avancement de quelque pauvres enfans qui seroyent avancez aux bonnes lettres, ou à apprendre quelque art ou mestier." With the exception of fires, which are seldom now considered, owing to the facility of insurance, the De la Court fund is still applied to the above purposes.

The De la Court fund, in 1860, amounted to about £4000 in money, besides 280 quarters of rents. On an average about thirty cases per annum are relieved, at a cost varying from as low as £60 to as much as £320, according to the nature of the claims.

Two other charitable funds exist in Guernsey—one for occasional relief to necessitous poor natives or naturalized inhabitants who have resided seven years in the island—the other, to procure bandages and trusses for poor persons afflicted with hernia. The amounts are not large, but the relief afforded is very great and extremely opportune,

The hospital in Guernsey is an important public institution, including not only an establishment for the sick and insane, schools, workhouse, but a refuge for the houseless and desolate. It has been in operation since the year 1742. It is somewhat on the plan of the modern English unions, and its state has been generally commended by those who from time to time have inspected it. Mr. Inglis (in 1835) speaks of it as a model of regularity, order, cleanliness, and liberality. A later report states, that "on entering the hospital, a visitor cannot avoid

being struck by the decorum, the cleanliness, and the industry apparent." "On a very minute inspection of every department, at a moment when the inspection of a stranger must have been utterly unlooked for, it would be withholding the praise due to merit not to declare that the Guernsey Town Hospital is in a state of perfect good order, and probably as well conducted as any similar establishment whatever." Casual relief is afforded to strangers as well as natives, and a public dispensary is attached to the hospital.

The hospital in Jersey is very spacious, and dates back also about a century, but it has not received the praise given to that of Guernsey. The prison, on the other hand, in Jersey is spacious and handsome, and in all respects well provided; whereas in Guernsey the prison accommodation and arrangements are extremely deficient in every important respect.

A dispensary has recently been founded in Jersey, which has been extremely useful. It is supported by voluntary contributions. Jersey and Guernsey both possess several charitable and religious institutions, both local and auxiliary to the larger institutions of the same kind in England.

VALE CHURCH PORCH, GUERNSEY.

Services at Churches and Chapels.

In the towns of St. Helier's and St. Peter's Port there are many churches and district churches of the established church, and some chapels, where the service is performed two or three times on every Sunday, and generally once at least during the week, according to the forms of the established church, in the English language. In the country parishes the services are more usually in French, but in most of them there is now at least one service, weekly, in English.

The principal services, both in the parish church of St. Helier's, Jersey, and in the town church of St. Peter's Port, Guernsey, are in French. There is, however, a garrison service on Sunday morning (in English), after the French service, at St. Peter's Port church, and a regular English service, with sermon, in the afternoon, in both parish churches.

Roman Catholic places of worship will be found both in Jersey and Guernsey. In the latter island there is a church recently finished, according to the designs of the late Mr. Pugin.

Almost all shades of dissent will be found in the islands, and most of them flourish. There are chapels belonging to the Wesleyan Methodists, the Independents, the Scotch Church, the Baptists, and many others. In the towns the service is conducted in English, but in the country villages French is more common. The Plymouth Brethren have a large chapel recently erected in Guernsey, and a smaller one, where the service is conducted in French. They have also three chapels in Jersey. There is a Jews' Synagogue at St. Helier's.

Alderney, like Jersey and Guernsey, boasts of its town church and its dissenting chapels. The population there is too large and too miscellaneous not to be provided with a variety of means of worship, according to the idiosyncracies of its residents.

Sark has its small episcopal chapel, and a room for its yet more minute dissenting congregation.

Markets.

St. Helier's is particularly well supplied with markets for the sale of meat, fish, poultry, vegetables, &c. The buildings are central, large, well ventilated, and convenient, but they cannot be said to be ornamental. The marketing goes on more or less every day, but on Saturday there is a much more considerable show and attendance than other days. The cattle market is only held on Saturday. Wednesday is a half market. A wholesale vegetable market is held on Wednesday and Saturday.

Although the markets are large, the number of buyers and sellers is so much larger than can be accommodated, that great complaints are made of want of room on the Saturday. Additional stalls have been erected in every available space in the neighbourhood, as it is the custom for all classes to market for themselves, and make Saturday a day of general meeting for gossip.

The markets in Guernsey are by no means so complete as in Jersey. The meat and fish markets being quite detached from the rest, are better, especially the latter, which is extremely well appointed in every respect, and is even too large for the present diminished supply. The principal vegetable market is held in the open air. There is, however, a small covered area in which are stalls kept by various French dealers. In Guernsey, as in Jersey, it is the custom of all classes to market for themselves, and during the few days before Christmas the scene is unusually picturesque and lively; vast quantities of French poultry being offered for sale, but at prices which in recent years have not been remarkably cheap.

There are a few other public institutions of the islands, but they are less important, and need not detain us. The reader may have remarked, from the account already given, how closely the island customs and institutions are gradually assuming a British character, and indeed many of the latter are now alto-

gether moulded on English principles, and the work connected with them is carried on in the English language. In all the parochial schools that language is taught; in the shops, and even in the markets it is almost universal; and though still not familiar in the cottages, the tendency is that it gradually should become more common, and that the local peculiarities of dialect should die away.

Still, it must not be supposed that the Channel Islands are likely soon to lose their essential characteristics. These are retained with wonderful tenacity, and with an evident intention; and they certainly add to the interest with which the group is surrounded.

It will be very long indeed before the islanders cease to exhibit to the traveller those curious peculiarities for which they are remarkable. No mere association with strangers and foreigners has ever yet entirely destroyed any cherished national characteristic; and, generally, the smaller the society the more carefully are characteristics preserved. It is for this reason that the study of the Channel Islands is so full of interest. Each island has its own soil, its own climate, its own vegetation, its own local zoology. Each has its own families, long established, often with much to be proud of, but almost always well enough marked to induce the present possessor of the family name to preserve and glorify it. Each has its local history and its laws, and each has its dialect. It is not here as in a large country. No one is unknown, and no event is forgotten. Change takes place here as everywhere; but the change is the slower, and the more superficial, the harder the character it acts on. The islanders are like their own granite,—sound, tough, and hardy, but not easily sculptured or worked into soft artistic forms.

END OF PART THE FOURTH.

APPENDIX

A.

Hints to Tourists and Visitors.

Means of Communication.

The Channel Islands are reached from England, viâ Southampton, Weymouth, Brighton (Newhaven), and Plymouth, by regular services of railroad and steam boats. From London there is a screw steamer direct. The mail is carried under contract from Southampton thrice a week, and by arrangement from Weymouth according to the season.

Regular steam communication is kept up between St. Helier's, Jersey, and the French ports of Granville and St. Malo. These boats carry mail bags. In summer they run three or four times a week to and from each port. In winter less frequently and less regularly.

From Guernsey there is, from time to time, steam communication with Cherbourg (distant about forty miles), and there is a trading cutter once a week each way between Guernsey and St. Malo all the year. Trading cutters ply between Guernsey and Southampton, and also between Guernsey and Plymouth.

The communication with Alderney is frequent but irregular. It is carried on by two private steamers, one of which generally leaves Guernsey shortly after the arrival of the mail from Southampton. The time of transit is usually two or three hours.

Once a week in summer there is generally a steamboat excursion to Sark and also to Herm, from Guernsey; and occasionally steamers make excursions from St. Heliers to Sark. The trip by steam from Guernsey to Sark occupies about an hour, but by a sailing boat the time is very uncertain.

The voyage from Southampton to the islands is by night, the mail starting a little before midnight, and reaching Guernsey in ordinary weather about nine o'clock in the morning. Of this nine hours' passage, two and a-half are through the smooth waters of Southampton Water and the Solent, before passing the Needles.

From Guernsey to Jersey the voyage generally extends to two and a-half hours, though it is sometimes made in two hours. It is greatly affected by the state of the tide.

The voyage from Weymouth to the islands is by day, the steamer starting from Weymouth in the early morning, and reaching Guernsey in fair weather shortly after noon.

The return voyages are all by day, the steamers leaving Jersey at half past six or seven o'clock in the morning, and Guernsey between nine and ten.

The service from Newhaven is carried on by two screw steamers; one of which goes to Jersey, and the other to Guernsey, each proceeding afterwards to St. Malo, without touching at the other island. This is a summer service. Other steamers ply between St. Helier's and St. Malo during most part of the year.

The arrangements to and from Jersey and Granville vary in different seasons. The passages are frequent, but little attention is paid to the convenience of passengers.

The steamer from London to Jersey, calling at Guernsey, runs once a fortnight each way, leaving London and Guernsey on Saturday, and Jersey on Wednesday.

Monthly return tickets are given by all the steamers at reduced fares.

It is right that travellers should know that in the joint railway

and steamboat journeys from London to the islands, by the mail steamers, no convenience is afforded for registering the luggage, so as to avoid, at the cost of a small fee, the trouble and confusion of claiming it—first, at the railway-station at Southampton or Weymouth, and again twice on board the steamer, both before starting and before landing. Extreme confusion and much needless trouble is thus caused to travellers, especially to ladies travelling alone, or with children. Persons not in good health, coming by the mail train from London, or requiring to land in small boats either at Guernsey or Jersey, will find this want of arrangement extremely inconvenient, and should be aware beforehand of the annoyances to which they will be exposed. It is not easy to understand why this should be, as the system of registering luggage to its destination is sufficiently well-known and acted upon by other railroad and steamboat companies, and even by the South Western Railway Company in reference to Paris.*

The dread of a rough passage across the English Channel is so general that many persons are, for this reason alone, deterred from visiting the Channel Islands and taking advantage of their mild winter climate. No doubt, after rough weather in the Atlantic, or with the kind of sea not uncommon during heavy gales, there is great discomfort incurred; but by a little attention to seasons and selecting fit weather, the annoyance is less than is generally supposed. Very frequently the transit is perfectly calm and the water quite smooth. The class of steamers employed on all the stations is improving; and the newest boats, the "Southampton," from Southampton, and the "Brighton," from Weymouth, should be looked out for. Days should also be selected, when it may be expected that the landing will be effected at the pier, whether at Jersey or Guernsey.

* It will be evident that the above remarks are liable to modification, and can only refer to the means of communication at a certain definite period. They apply to the season of 1862.

Postal Arrangements.

In this respect the Channel Islands are very unhappily circumstanced, the Post Office contract only securing three mails weekly, and the Company being left to perform the service as it pleases. During summer (from May to October inclusive), there is generally a daily mail, the Weymouth steamer bringing a bag on those three days on which the Southampton boat does not run. This, however, is an extra mail, not carried by contract. During winter (from November to April inclusive), the Weymouth steamer brings one mail weekly, so that the arrivals are reduced to four. Owing to the fact that the passages from the islands are all made by day, the return of post from London can never be less than three days, and may in winter extend to five. Thus, a correspondent posting a letter in London on a Thursday in winter, cannot receive a reply from Jersey or Guernsey till the following Tuesday morning. In case of bad weather, or thick fog on the English coast (by no means an uncommon event), the mail is not unfrequently delayed for many hours. In such case the steamer has been sometimes kept back, without adequate reason, for two days. During heavy gales, it is also occasionally impossible or inconvenient to proceed beyond Guernsey; and now and then the steamer cannot make its way out of Jersey harbour in the face of south-westerly storms. Beyond London, except where there is a day mail, the arrival of the letters from the islands in the early morning, and their departure at night, causes extra serious delay. Efforts have been made hitherto without success, to induce the government to modify an arrangement entered into long ago, and very inadequate at present to the wants of 100,000 people.*

* A remarkable illustration of the deficiency of communication occurred on the occasion of the death of the Prince Consort, in the winter of 1861. Although this melancholy event took place on a Saturday, near London, the fact was not known in Guernsey till the following Tuesday evening, the lieutenant-governor

There would seem no reason why, if the port of Weymouth were selected instead of Southampton, the mail should not arrive at Jersey in ordinary weather by nine o'clock in the morning, or why a return mail should not leave Jersey early enough to pass the dangerous part of the Channel before dark, and reach Weymouth in the early morning of the following day, and London before noon. The absence of direct telegraphic communication with England renders the position of the islanders yet worse.

Alderney, notwithstanding its large population, does not possess the advantage of a regular postal communication. A small private steamer carries on the letters generally after the arrival of the English mail at Guernsey, but its owners are not bound by any time contract, either in going or returning. Many days sometimes elapse without an arrival at, or departure from Alderney.

Sark is still less regularly supplied, the mail bags being carried over from Guernsey occasionally, when convenience serves, by a sailing vessel.

Landing and Hotel Accommodation.

At St. Peter's Port in Guernsey, and St. Helier's in Jersey, the harbours are sufficiently complete to allow of steamers landing their passengers at the pier, except very near low water on a falling tide. When unfortunately the vessel cannot safely venture alongside the pier, or within the harbour, small boats are resorted to; but, except in severe north-easterly weather, the water is tranquil, and little inconvenience is felt at Guernsey. Landing in small boats at Jersey, is, however, always extremely disagreeable, and should be carefully avoided in the case of ladies or

being unable to obtain confirmation of the vague rumours on the subject that floated about in Jersey. At Jersey, the same absence of information existed for some hours after the news had reached Guernsey. There was hardly a capital in Europe to which the news did not reach on the Sunday, and no important town in which it was not known on Monday morning.

children. At Alderney, an easy landing can be depended on, even when the tide is quite out; but it is a long distance from the landing-place to the town. At Sark, boats are always required; and there, also, the distance to the houses is very considerable. Sixpence is the boat fare for landing at all the islands. This sum includes any reasonable amount of luggage.

On landing at either of the principal islands, the traveller is confused by the discordant appeals of porters, each shouting out his number. It is only necessary to select one to silence the rest. The porters are generally civil, and perfectly honest. There are tariffs regulating both porters and boatmen's fares, both in Guernsey and Jersey. These tariffs are posted in prominent places on the quays.

There is no want of hotel accommodation in any of the islands. The traveller may choose for himself among many, not differing very much in accommodation and charges. In Jersey there are several near the harbour, and others in the town, all on the English system. There is also the Pomme d'Or, a well-conducted and comfortable French hotel, with excellent table d'hote. There are several very good boarding houses. Mrs. Treleavan's, at Mon Sejour, in David Place, is in every respect liberally supplied and well conducted, and scrupulously clean. Bree's, in David Place, is well spoken of, and there are many others, no doubt very good. In Guernsey, the Royal Yacht Club (Marshall's), Hancock's, the British, and Gardner's (Esplanade), are the principal hotels. An excellent boarding establishment (without a public table) is found at Gardner's (Old Government House), and there are many smaller, but very comfortable places of entertainment, suited to all pockets, and to families of all sizes.

Private lodgings are abundant in Jersey and Guernsey; although there are fewer in the latter island than in the former, in proportion to its size. The best accommodation of all kinds is always fully occupied in both islands during the season, which

lasts from June to October. Afterwards there is a demand for lodging from invalids, who propose passing the winter in these mild climates. Strangers, therefore, who require accommodation will do well to arrange beforehand or prepare for a little delay in obtaining suitable apartments.

Alderney is admirably supplied with hotel accommodation, at very moderate prices, in the hotel recently opened by Captain Scott, who commands the "Queen of the Isles" steamer, plying between Guernsey, Alderney, and Cherbourg. There are other places; but no one would go elsewhere who could find accommodation here.

Sark has no hotel; but there are two well-known and long-established houses, where board and lodging can be had, and several cottages, where lodging only is afforded. Of the former, the largest and principal is kept by Mrs. Hazlehurst, who deserves every credit for the liberal entertainment she supplies, on terms which no one can object to. Mrs. Vaudin keeps a similar house at a short distance. Here, and in all the islands, during summer, and in all parts of them, the tourist may safely trust to finding food and accommodation, without travelling very far.

Public conveyances will be found in Jersey, both at the landing-place, and to carry the tourist in various directions from St. Helier's; but they do not run in winter, except to St. Aubin's and Gorey. There is no fixed tariff for the carriages plying at the landing-place of the steamers, and the fares are high. Excellent carriages may be hired at the livery stables, at exceedingly moderate cost. Guernsey is less well supplied in this respect. There is, however, an omnibus running between the landing-place at St. Peter's Port and St. Sampson's; and omnibuses are arranged to visit the principal points of interest in the island. These latter are not well adapted to give the stranger an idea of the most interesting points, either in Jersey or Guernsey.

In Jersey the tourist will find many reading rooms, at which

he can see the London and local newspapers, and various periodicals. It is unnecessary to enumerate these, as they differ little from each other, either in the nature of accommodation or price. There are also in St. Heliers, billiard rooms and other places of amusement, and a theatre, which, from time to time, is open for various entertainments.

Guernsey is less provided with amusements for the stranger; but at Mr. Barbet's, in the High Street, a very convenient room has been provided, well supplied with newspapers and periodicals, and open to any one, either by annual, monthly, or daily subscription.

There are two clubs at St. Helier's, in Jersey, and one in Guernsey. Both are accessible on the introduction of a member.

Bathing.

There are in Jersey arrangements for sea bathing in St. Clement's Bay, not far from the town of St. Helier's, at its eastern extremity. Hot and shower baths can be had at an establishment close at hand. The sands are extremely good, and very extensive, but the range of tide is too great to be pleasant. Guernsey is not at present so well supplied. There are, however, a few machines, at a spot between St. Peter's Port and St. Sampson's. The best sands are at Cobo, but the distance from the town is too considerable to offer any inducements to open an establishment there. It has been suggested to appropriate a portion of the new pier, enclosing St. Julien's rocks, to the purposes of a ladies' bathing place.

APPENDIX

B.

Money, Weights, and Measures.

Money.

The circulating medium in the Channel Islands partakes of a curious admixture of English and French systems, and seems puzzling enough at first to a casual visitor. This arises from the fact, that while the English names of coins are preserved, the exchange generally takes place, and the monetary transactions are regulated by Paris. Practically, the current coins of all kinds, of both countries, pass freely in all the islands, the English sovereign bearing a premium, varying according to the state of the exchanges.

The current coins in circulation in Jersey are the English gold and silver pieces. There is, however, an island currency, and a special copper coinage of pence and halfpence. Thirteen Jersey pence are equivalent to an English shilling, and there are nominal coins, called Jersey shillings and pounds, twelve Jersey pence being equivalent to a Jersey shilling, and twenty shillings to a pound. There are, therefore, 260 pence, Jersey currency, to the English pound sterling of 240 English pence. Bank notes of the value of one pound currency are issued by various private banking establishments, and by authority of the various parish assemblies. These are in common circulation, but do not pass at the Post Office or on board the steamers. They should not be carried out of the island.

Practically, it is seldom that the stranger is allowed to have the benefit of the premium, as in the hotels and markets, and even in many shops, the prices asked are British. The steamboat companies, the post office, and other government offices, all require sterling money; but unless otherwise expressed, all ordinary purchases made, or affairs transacted in the island, with the islanders, should be understood to be in currency, and paid for accordingly.

In Guernsey, Alderney, Sark, and Herm, the coins in common use are the French pieces of five francs, two francs, one franc, and half franc. These are regarded as so many pence, at the uniform rate of ten pence currency for the franc, and the denominations larger than a penny are shillings and pounds (twelve pence = one shilling, twenty shillings = one pound). The Guernsey pound, therefore, consists of two hundred and forty Guernsey pence; and as by the course of exchange the sovereign is generally worth twenty-five francs, and the Guernsey pound is always twenty-four, it may be considered that the pound sterling contains two hundred and fifty pence (one pound and ten pence) Guernsey currency. We have already explained that it contains one pound one and eight pence Jersey currency. We thence obtain the following values, namely:—

One pound Jersey currency	=	£0 18	5¼ nearly.
One pound Guernsey currency	=	0 19	2½ nearly.

In Guernsey there are one pound notes as in Jersey. They are issued partly by the private banks and partly by the State.

Except at some of the hotels, on board the steam boats, and at the post office, where British money is exacted, all claims and accounts are in currency, and provided the sovereign be changed into French money, there can be no difficulty or mistake, and the stranger must obtain the same advantage as the known resident. This more than makes up for the greater premium in

Jersey. There is a copper coinage in Guernsey as in Jersey, the currency consisting of pence, half pence, farthings (called two doubles), and eighths of a penny (called one double).

The *livre tournois* is still retained as a nominal coin in legal matters, and for various purposes. Fourteen livres tournois are equivalent to the pound sterling. The *sol* is the twentieth part of the livre, and is worth about six-sevenths of a penny sterling.

We have remarked that the bank notes of the two islands only circulate in the island in which they are issued, but the Guernsey notes also circulate in Alderney and Sark. Bank of England notes are common enough in Jersey, but are rarely seen in Guernsey, except at the hotels. Sovereigns are not often used in Guernsey, but are current coins in Jersey. The Jersey copper coinage has recently been replaced by a bronze coinage, on the plan of the English.

Weights.

The theoretical legal standard of weight in all the islands is the "*poids de marc de Rouen,*" the old Normandy pound, the value of which is stated in Kelly's "Cambiste Universel" to bear to the Amsterdam pound the proportion of 1009 to 1000; and as the latter is 7625 grains, this would give the poids de marc 7539½ Troy grains.

When, however, we compare the actual standards, the result is very different. In Jersey, the value of the standard is 7560 grains, and this Col. Le Couteur, F.R.S., the present *Vicomte*, or Sheriff, of Jersey, has identified by careful personal observation with the old French standard pound of Charlemagne, preserved at Rouen. This certainly ought to be, and is assumed by Col. Le Couteur to be the true "*poids de marc.*" In Guernsey, a careful comparison of several standard weights was made some years ago, and the result gave, as the mean value of all, 7627 grains to the pound. This agrees so nearly with the Amsterdam pound (the difference being only two grains) that it would seem

probable that the original standard has there been replaced by one from Amsterdam, a curious illustration of the greater prevalence and importance of foreign (Dutch) trade in Guernsey, and of the coasting (French) trade in Jersey.

As it stands now, therefore, the following tabular statement will show the relative and actual values of the various standards:

1lb. Jersey =7560 grs.=1lb. 1¼oz. 14grs.=1·08lbs. Avoirdps.
1 „ Guernsey=7627 =1 1¾ 80 =1·09 „

100 lbs. Jersey weight = 108 lbs. 0 oz. Avoirdupois.
100 „ Guernsey „ = 108 15½ „ nearly.

112 lbs. Avoirdupois = 103 lbs. 11¼ oz. Jersey weight, nearly.
„ „ = 102 12¾ Guernsey „

The smaller divisions of the pound bear the same proportion as in England; but the old French *gros*, or half-quarter ounce, and its half, the *demi-gros*, are still retained in Jersey. The demi-gros is 29½ Troy grains.

For common purposes, thirteen Jersey pounds are considered equivalent to fourteen English. Accurately, twenty-five Jersey pounds are the equivalent of twenty-seven pounds avoirdupois.

The modern French pound, or demi-kilo, contains 7722 grains, and is therefore considerably in excess of any of the above. It is, however, sometimes used in Guernsey, especially when steelyards, manufactured in France, are employed for weighing. It may be convenient to state, therefore, that the centner, or one hundred French pounds (fifty kilogrammes) is nearly equivalent to 110 lbs. 5 ozs. avoirdupois; to 102 lbs. 2 ozs. Jersey, and 101 lbs. 4 ozs. Guernsey weight.

The weights used in Alderney, Sark, and Herm, correspond to those of Guernsey.

Linear and Square Measure.

The ordinary measure of length in all the islands is the standard English foot, of twelve inches.

In square measure, however, the Jersey method of calculation is very peculiar. The Jersey square foot is a space twelve Jersey inches in breadth, each such inch being twenty-four Jersey feet long by one inch broad. The square foot thus becomes an area, measuring twenty-four Jersey feet by one Jersey foot. In this measurement, however, the linear Jersey foot is equivalent to only eleven English inches, so that the square foot of Jersey equals twenty and one-sixth square feet English measurement.

In the case of glazier's work, the square foot measures only eight inches long by eight broad, or sixty-four square inches English.

In measuring land, the perch contains twenty-four Jersey square feet of the kind above stated, and is therefore equivalent to four hundred and eighty-four English square feet, or an area twenty-two English feet square.

Forty perches make a *vergée*, of about 2,150 square yards English. Thus two and a-quarter Jersey vergées are nearly equivalent to the English acre.

In other matters, the English measures are adopted.

In Guernsey, the English measurements of the foot are used. The perch there measures seven yards, or twenty-one feet, each side, and thus contains forty-nine square yards instead of about fifty-four, as in Jersey. The vergée of Guernsey contains 1,960 square yards, and two and a-half Guernsey vergées are equal to an English acre.

The Alderney measures of land are the same as those used in Guernsey.

The Sark vergée corresponds with that of Jersey.

Liquid Measures.

The Jersey wine gallon contains rather more than two hundred and forty-seven cubic inches English, being thus thirty cubic inches, or more than eleven per cent. smaller than the English imperial gallon of two hundred and seventy-seven and a-quarter cubic inches. The Jersey quart, of which there are eight to the gallon, nearly corresponds with the French litre.

The Guernsey standard wine gallon contains two hundred and sixty-four cubic inches, and is thus seventeen cubic inches, or about seven per cent. larger than that of Jersey, and thirteen- and a-quarter cubic inches, or five per cent., smaller than the imperial gallon.

For certain purposes of taxation, the Guernsey gallon is estimated at two hundred and sixty-one cubic inches.

The smaller divisions are into pots (half-gallon), quarts, pints, gills (quarter of a pint), and noggins (an eighth of a pint).

The hogshead of cider in Jersey contains sixty gallons.

Dry Measures.

In all the islands, dry measure is estimated by weight, though named by measure. The weight allowed varies for different articles.

In Jersey, the measure of dry goods is the *cabot*, or half-bushel, of which a bronze vessel, called the "Estendart du Chasteau," is the legal standard. This vessel is in excellent condition, and has been handed down from an early period.

A careful investigation, conducted in the presence of the Vicomte of Jersey, in 1845, showed this standard to contain 43 lbs. 7 ozs. of distilled water. (The imperial quart, under precisely similar conditions, contains forty ounces, and the imperial gallon ten pounds.) The Jersey cabot is thus equivalent to 4·34375 imperial gallons (1204·3 cubic inches).

The cabot is divided into five gallons, or six *sixtonniers*. Eight cabots make one quarter, and ten quarters one ton.

The Jersey gallon contains a little less than seven pints imperial measure, and the Jersey quarter (thirty-four gallons and three quarts) a little more than half an imperial quarter.

The wheat or standard cabot (le petit cabot) containing 1204·3 cubic inches, is smaller than that used for barley, oats, potatoes, &c., which contains 1605·7 cubic inches. Nine wheat cabots are equivalent to five English bushels. The cabot of wheat, when sold by weight, is thirty-two pounds; of oats, twenty-eight pounds; of barley, thirty-six; of apples, thirty-eight; and of rye and potatoes, forty pounds, all Jersey weight. Forty-two cabots of apples make a quarter, of 1596 lbs. The wheat cabot contains ten pots, and that for barley, rye, peas, beans, and potatoes, is one-third larger.

In Guernsey, the *denerel*, or dundrel, is the common small unit of dry measure; and goods are sold either by the denerel or bushel of admitted weight. Three denerels, in Guernsey, make one *cabotel*; ten cabotels, one bushel; and four bushels, one quarter. The English imperial quarter is equivalent to about two Guernsey quarters.

It may be worth stating that the Guernsey heaped bushel is nearly equivalent to the imperial strike bushel.

The Sark *cabot* is one-sixth of the Guernsey quarter.

The liquid and dry measures used in Alderney are those of Guernsey.

N.B.—Great care has been taken to obtain accurate information on the subject of the island weights and measures. The accounts here given are believed to be correct, although they do not exactly agree with any of those published in the local almanacs, or in the various histories of the islands, which, indeed, do not agree with each other.

APPENDIX

C.

Statistics of the Islands.

The following abstract of returns published of the census of 1861 and of some former censuses of the present century may be useful for reference:—

1. *Population of the Islands.*

	1821.	1831.	1841.	1851.	1861.
Jersey	28,600	36,582	47,544	57,020	56,078
Guernsey, Herm, and Jethou	20,339	24,540	26,698	29,806	29,846
Alderney	?	1,045	1,038	3,333	4,933
Sark and Brechou . .	488	543	785	580	583
	49,427	62,710	76,065	90,739	91,440

The number of males in Jersey on the occasion of the last census was 25,304; and of females, 30,774. There is thus a very large excess of females. In Guernsey and the smaller islands, there were 16,546 males and 18,816 females. The excess of females in Jersey is 9·75 per cent. of the total population, and in Guernsey 7·6 per cent.

St. Helier's in Jersey, and St. Peter's Port in Guernsey, contain nearly half the population in each island. Thus in St. Helier's the inhabitants at the last census consisted of 12,813 males, and 16,715 females. Total, 29,528. This shows a decrease of the town population to the extent of 213 since 1851; but an increase in the relative disproportion of females and males; for the males have diminished by 577, and the females have increased by 364.

2. *Houses in the Islands in* 1861.

	Inhabited.	Empty	Building.	Average number of inmates in each house.
Jersey	8,338	367	46	7
Guernsey and the other islands . . .	5,725	466	34	5

The number of houses in the town of St. Helier's, Jersey, in 1861, was 4,188 inhabited, 245 uninhabited, and 30 building. Total, 4,463. The average number of inhabitants to each house in the town was therefore seven. This is not excessive, and agrees with the general average.

3. *Value of Life.*

It is worthy of remark that, in Jersey, in 1851, less than five persons out of a thousand had attained the age of seventy-five, or upwards; whereas more than eight out of a thousand were of that age in Guernsey. The following results are all in a similar direction, as showing a higher value of life in the smaller island:—

	Jersey.	Guernsey.
Persons between 55 and 65 .	1453 or 2·55 per cent.	916 or 3·07 per cent.
Do. do. 65 and 75 .	783 „ 1·37 „	577 „ 1·94 „
Do. above 75 . .	304 „ 0·053 „	243 „ 0·081 „

Both islands exhibit favourable results compared with England generally, and also with the West of England specially. There cannot be a doubt that *cæteris paribus* persons above the age of fifty, are likely to live longer in the islands than in England.

The details of the late census not being yet published, there are no means of continuing the comparison of life statistics up to the present time. The difference shown in the above table is very remarkable and significant, but is possibly partly due to the much greater amount of the floating and foreign population in the larger island.

The occupations of fisherman and quarryman are not only much more common in Guernsey than in Jersey, but the results of comparison are curious in other respects. Thus, in 1851, there were, in Jersey, two hundred and twenty-five persons following the employment of fisherman, of whom only thirty were of the age of fifty-five, or upwards. In Guernsey, with half the total population, as many as two hundred and fifty-three persons were returned as fishermen, forty-two of whom were of the age of fifty-five and upwards, and eleven of these were upwards of seventy-five years of age. There were in Jersey, in 1851, only one hundred and thirty-five persons working in quarries; and in Guernsey, four hundred and sixty-one.

4. *Education.*

Education was also less completely carried out in public schools in Jersey than in Guernsey at the date of the census of 1851. The following tabular statement is extracted from the published report:—

	Jersey.	Guernsey, &c.
Males attending schools	2,844	2,169
Females do.	2,084	2,302

It is believed that this state of things still exists to some extent, the attendance in Guernsey being larger in proportion than in Jersey.

5. *Miscellaneous Statistics.*

The following general statistics, also from the returns from 1851, may be added with advantage:—

	Labourers employed in farm labour	Paupers.	Prisoners in gaol.	Lunatics in asylum.	Patients in hospital.
Jersey .	1176 or 4·6 per cent. of males.	311	54	24	57
Guernsey	606 „ 4· „ „	392	6	0	8

In Guernsey, there was in 1851 no public asylum for lunatics, and no return was made of the number of such persons, or of idiots. The number so afflicted in all classes of society is, however, not inconsiderable, and idiotcy seems more common than mania. Accurate statistics on this subject, in both islands, and with reference to all classes of the population, are very much to be desired.

The number of labourers is small in both islands, owing to the extreme division of property leaving but few farms on which extra labour is required. It is smaller in proportion in Guernsey than in Jersey, no doubt for the same reason.

The proportion of foreigners in Jersey is very large, — the number of English, Scotch, and Irish, being about 13,000, and of French, 2,000; the native population being 41,000, most of whom live in the country. Of the town inhabitants, the English residents are chiefly persons living on their incomes, and the French are generally artisans and servants. A still larger proportion of the population of Alderney, than of either of the other islands, is composed of strangers. They are chiefly French and Irish, employed on the Harbour works, and English soldiers of the regiments quartered there. In Guernsey, the proportion of strangers is much smaller. There are hardly any resident strangers in Sark.

6. *Revenue and Debt.*

The annual revenue of the island of Guernsey, obtained from the taxes on wine and spirits, and licenses to publicans, amounted, in 1860, to about £8,000; and from the market monopoly, £400. The income from the harbour was, in that year, £7,727 18s. 6d., and had been increasing steadily and rapidly since the year 1847, when it amounted only to £784 8s. 7d. On the other hand, the public debt of the island, independently of the harbour works, was about £80,000; and the harbour debt (including that for St. Sampson's), £130,613. With the exception of £40,000 raised on one pound bank notes, payable on demand, the whole amount of this debt is in the form of bonds, bearing interest at three per cent., and payable at very short notice. Great confidence is shown by the holders of these bonds, who are chiefly natives of the island; and no difficulty whatever has been experienced in raising loans for public purposes, on terms which must be regarded as exceed-

ingly favourable. It is intended that the harbour debt shall be gradually reduced, before any further expenses of importance are incurred.

The revenue of Jersey is also chiefly derived from the "Impot," or tax on wines and spirits, originally (in the reign of Charles II.) appropriated for the building and maintaining of a college, or workhouse and house of relief, and for certain purposes of defence. By an order in council in 1803, one-third of this impost was reserved for war purposes. At this time, the produce amounted only to about £5,000. In 1823, when the first steamer made its appearance in Jersey, it amounted to £7,487; and, in 1843, to £16,500. It now exceeds £18,000. The harbour dues yield a large and increasing revenue.*

There is also a crown revenue, fluctuating with the price of wheat, and, at the present time (1862), amounting to £2,200. This is independent of a valuable crown property on the east side of the island, near St. Catherine's Bay, at present yielding an income of £1,200.

The public debt of Jersey, incurred in the construction of the harbour and other works, is something less than a quarter of a million sterling,—paying interest at three and a-half per cent. There is also a debt of the Assembly of the governor, bailiff, and jurats, amounting to £15,067. No special sinking fund exists; but the revenue is so far in excess of the expenditure that if no extraordinary public works are undertaken, the whole Assembly debt may be paid off in a little more than ten years.

THE END.

INDEX.

A.

Abbey, ancient, in Chaussey Islands, 129.
Acalephæ of the Channel Islands, 239.
Actinolite, abundance of in Sark, 264.
Acts of Parliament, how they affect the Channel Islands, 532.
Administration of justice in the Channel islands at an early period, 356.
Advocates, number of, practising in the islands, 531.
Advowsons in the islands belong to the Crown, 541.
Ætius (Roman consul), his treatment of the Britons, 315.
Agricultural Society of Jersey, and of Guernsey, 556.
Agriculture of the Channel Islands, 459.
Alani, the migrations of this tribe, 316.
Alder, Mr. J., his assistance acknowledged, 214, 218, 219.
Alderney, high water at, 9; general account of, 19; notice of the cliffs of, 19, 20, 27; parish church, 29; climate, 155; remarkable insects, 225; geology of, 266; its sand-stone compared with the Jersey conglomerates, 274; raised beach in, 280; antiquities of, 413; Roman remains in, 429; derivation of its name, 452; soil of, 464; manure in, 468; size of farms in, 476; cows of, 480; independent legal existence of, 519; its governing body, 521; account of its law court, 536; its militia, 551; hotel accommodation, 569; money, 572; measures, 577.
Algæ, or sea-weeds of the Channel Islands, 191.
Aloes, flowering, at Valnor, Guernsey, 491; abundance of, in the islands, 500.
Altars, identity of cromlechs with, 412.
American War, attempt on Jersey by the French during the, 390; privateering carried on then from the Channel Islands, 400.
Amirauté, the Court so called, 534.
Amphipodous crustaceans of the Channel Islands, 234.
Analysis of soils, 461; of sea-weed, 513.
Anchors in Jersey, made of stones, 511.
Ancient weapons and implements, 327; group of pottery, 415.
Ancresse, *see* L'ANCRESSE.
Angular fragments, accumulation of, in a fissure in Guernsey, 291.
Animal life, abundance of, in Sark, 73.
Animals of the Channel Islands, 200; summary of species, 246.
Anne, Queen, privateering commenced during her reign, 397.
Anne Port, Jersey, 98; cromlech at, 518.
Annelids of the Channel Islands, 236.
Antiquities and Archæology of the islands, 408.
Antoninus, his Itinerary quoted, 427, 452.
Appeal of Ha! Ro! 538.
Apples, cultivation of in the islands, 487; trade in, 507.
'Approbation des Lois,' the book so called, 532.

Apricot, cultivation of in Guernsey, 486.
Archæology and Antiquities, 408.
Arched rocks in Alderney, 26.
Archirondelle Tower, Jersey, 99, 352.
Architecture, church, 29, 57, 119, 547; town, 548.
Ardents the, rocks so called, 124.
Area, of sea including the Channel Islands, 5; occupied by the principal groups of the Channel Islands, 16; of Guernsey, 37; of Jersey, 92.
Armorica, the country so named in ancient times, 310, 315.
Arnold, Mr., his manufacture of iodine in Guernsey, 514.
Arrest, law of, in the islands, 538.
Arrowroot, manufacture of, in Guernsey, 516.
Artemidorus quoted by Strabo in reference to Channel Islands superstitions, 424.
Associations, literary, 556.
Austen, Mr. Godwin, his remarks on the geology of the Channel Islands, 260, 272.
Autel de Dehus, Guernsey, 428.
Autelets, Sark, 76, 80, 264, 287.
Autumn, the best season to visit the Channel Islands, 12; temperature during, 138; flowers blossoming in, 177.
'Avocat de la Reine,' the officer so called in Jersey, 525.

B.

Babington, Professor, his work on the botany of the Channel Islands, 166, 175.
Bacchic orgies of the Channel Islands, 425.
Bacchus and bacchanals, their representatives in the islands, 424.
Bailiff, the, his office in the islands, 524.
Bailiwick of Guernsey, extent of, 519.
Bandinell, Dr., Dean of Jersey, his attempt to anglicise the church in Jersey, 367.
Bank notes current in the islands, 573.
Banks, savings and penny, 557.
Baptists in the Channel Islands, 405.
Barbican, Castle Cornet, Guernsey, 479.
Barilla, collectors of, on the Chaussey Islands, 129; manufacture of, 513.
Barnacles, species of, found in the islands, 231.
Barnouic, plateau de, 124
Barometer, record of observations of, 141, 150.
Barometer and other instruments, account of those used in meteorological observations in Guernsey, 133.
Bathing arrangments, 570.
Battle, naval, fought off Guernsey, in the reign of Edward III., 359.
Bays of Guernsey, 44; of Jersey, 94.
Beau Port, Jersey, 113, 307.
Beau Sejour, Guernsey, 58; camellias at, 497.
Bec du Nez, Guernsey, 45; Sark, 80.
Bee, leaf cutter, its habits, 225.
Beetles of the Channel Islands, 224.
"Billet d'Etat," its meaning, 527.
Birds of the Channel Islands, 203.
Bishop, the, how his authority was exercised in the fourteenth century, 357.
Bishop of Coutances, termination of his power as Metropolitan in 1656, 365.
Bishops, various, to whom the islands have been subject, 365.
Bissets rocks, Guernsey, 50.
Bivalve shells of the Channel Islands, account of, 217.
Black rat, common in some of the Channel Islands, 201.
Blake, Commander of the Parliamentary forces, attack on Jersey by, 385.
Blown sands, 110, 294, 462.
Bon Air, Guernsey, view of, 45.
Bonne Nuit, Jersey, 103; cherts and hornstones there, 271.
Bordeaux Harbour, Guernsey, 53.
Botany of the Channel Islands, 165.
Bottom of the sea around the Channel Islands, 6.
Boulders, at Saie Harbour, Jersey, 275; derived from the conglomerate rock, Jersey, 292; of decomposed syenite in Alderney, 293.
Bouley Bay, Jersey, 100, 102; view of, 474.
Bouquet, *see* DOM BOUQUET.
Boutiques caverns, Sark, 79.
Bowden, inveigles the commissioners on board his ship, 377.
Bowerbank, Dr., his account of the Channel Island sponges, 243.
Brackish water ponds, with mixed sea and fresh water fish, in Guernsey and Jersey, 213.
Braye Harbour, Alderney, 22; boss of porphyry there, 268.

Braye the, Alderney, 21.
Braye-du-Val, Guernsey, 53; pond near there, 213.
Breccia in caverns in Guernsey, 292.
Brechou, Isle of, 71, 84, 265; raised beach at, 280.
Brehaut, Rev. T. C., on the training of fruit trees, 490.
Brehou Island, near Guernsey, its fort, 59.
Breton origin of the Channel Islands population suggested, 325.
Breton legends, value of, 331.
Brevint, Dr., appointed to St. John's parish, Jersey, 367.
Brick clay in Guernsey, 296.
Bricks exported from Jersey, 501.
Britany, when first so called, 314; various races inhabiting, 325.
Brown rat in some of the islands, 201.
Bryozoa of the islands, 219.
Brunechild and Childebert, their attempt to poison St. Sampson, 318.
Buckland, Mrs., her assistance to Dr. Bowerbank acknowledged, 243.
Buildings in Alderney, 29.
Bulbous plants in Guernsey, 490.
Bulk of individuals of the invertebrata in Guernsey, 301.
Burhou Islands, near Alderney, described, 31; storm petrel breeds there, 207; leaf cutter bee at, 225.
Burons, Sark, rocks and islands, 71, 265; view of, 298.
Busk, Mr., his assistance acknowledged, 242.
Butterflies of the Channel Islands, 226; useful in comparing the fauna of the islands, 300.
by, a termination common in Denmark, 333; on the Tees, 334; and in Lincolnshire, 335; not in the Channel Islands, 452.

C.

Cabbage, cow, grown in Jersey, 477.
Cabot, value of the measure so called, 576.
Caen stone used in the parish church, Alderney, 29.
Caer, its meaning as an affix, 312.
Cæsar, his mention of the tribes who inhabited the mainland in his time, 310; his notice of the Druids, 419.
Cæsar, Fort, Jersey, 99.
Cæsarea, a name for Jersey, 312; its derivation, 452.
Calvinistic origin of the island Protestantism, 365.
Camden, on an early speculation as to the superstitions of the islanders, 428; his account of the Jersey cromlech, 412.
Camellia japonica, account of, 497.
Candie, Guernsey, 58; orange tree at, 498.
Canons of church government of Dr. Bandinell accepted in Jersey, 367.
Cantons, division of the town parish of Guernsey into, 520.
Carey, Mr. F., of Guernsey, his account of the produce of Guernsey cows, 481.
Carey, P. S., Esq., Bailiff of Guernsey, his assistance acknowledged, 519; the first English barrister who has held the office of bailiff, 524.
Carnuntes or Chartres, country around alluded to by Cæsar, 418.
Carré, Mr. H. O., his garden, 491; lists of cultivated trees and shrubs, 492, *et seq.*; his remarks on aloes, 500.
Carteret, Sir George de, his influence in Jersey, 373; made a baronet, 381.
Casquets rocks, 32; sand-stone of, 269.
Casquets middle bank, 34.
Castle Cornet, Guernsey, 39, 42; attacked by the French under Evan of Wales in the reign of Edward III., 362; escape of the three commissioners from, 377; defence of, 387; considered useless, 390; view of, in the time of Charles II., 391; view of the Barbican, 479.
Catel Church, fresco in, 430.
Cats, the tailless variety found in Guernsey, 202.
Causes of climate in the Channel Islands, 158.
Caverns of Guernsey, 46, 262; of Jersey, 107; of Sark, 82, 287.
Celtic, *see* Keltic.
"Centeniers" of Jersey, their office, 521.
Cephalopodous molluscs of the Channel Islands, 214.
Ceremonies, superstitious, of the early inhabitants of the Channel Islands, 423.
Chalk flints on the Jersey shores, 273.
Chambers of Commerce, 556.
Change, impending over the Channel Islands, 14; of episcopal allegiance of the islands, 365.
Changes, annual, on the shores of the Channel Islands, 286.

Changes of climate, induced by change of elevation of land, 159; observed in passing from one island to another, 162.
Channel, English, section across, 6.
Channel Islands, their geographical position, 3; names of principal groups, 16; summary of climate, 156; summary of flora, 198; and fauna, 246; a good school for geology, 248; summary of their earliest history, 349; their names absent in the Norse sagas, 335; antiquities, 408; language, 439; agriculture, 459; horticulture, 483; laws, 531; constitution, 543; means of access, 563; local monies, 571; weights, 573, and measures, 575; statistics, 578.
Chapelle Mauve, Sark, 79.
Chapels, ancient, of Guernsey, list of, 429.
Charitable institutions, 557.
Charles I. declares war against France, 367.
Charles, Prince of Wales (1646) arrives at Jersey, 378.
Charles II., address from Guernsey to, 391; second visit to Jersey, 394.
Charters, oldest, relating to neutrality, 359; royal, have the force of laws, 532.
Chartres, *see* CARNUNTES.
Chasse marée, account and view of this kind of vessel, 17.
Chateau l'Etoc, Fort, 23.
Chattuarii, people so called, 343.
Chaumontel pear, cultivated in the islands, 489; trade in, 507.
Chaussey Archipelago, 122; radiata of, 238; granite of, 505.
Cheapness of the Channel Islands as a residence not remarkable, 550.
"Chef Plaids," or Chief Pleas of the Royal Court, Guernsey, 529.
"Chefs de famille," ratepayers so called in Guernsey, 520.
Cherts at Bonne Nuit Harbour, Jersey, 271.
Cheu-cavalier, or great cow cabbage of Jersey, 477.
Cherry, cultivation of in the Channel Islands, 486.
Childebert, King, visited by St. Sampson, 318.
Chlorite, its abundance in the Channel Islands, 259.
Christianity, its first introduction into the Channel Islands, 316, 325.
Churches, of Alderney, 29; of Guernsey, 40, 57; of Sark, 88; of Jersey, 119; of the islands generally, 548.
Church architecture in Alderney, 29; Guernsey, 57, 547; Jersey, 119, 547.
Church arrangements, 355; and services, 547.
Church government in the islands, 366.
Cider made in and exported from Jersey, 507.
Cirrhipedes of the islands, 231.
Clanque battery, Alderney, 19.
Clarke, Dr. Adam, attacked by a Guernsey mob, 404.
Clay worked in the islands, 296.
Clay slate in Rocquaine Bay, Guernsey, alluded to, 257.
Claystone and claystone porphyry in Jersey, 271.
Clearness of the air, a sign of coming change of weather in the islands, 158.
Clergy of the islands, continental in their feelings in the reign of John, 356; falling off of their revenues under Protestantism, 365.
Climate of the Channel Islands, 12, 132; of Guernsey, 134; of Jersey, 148; of Alderney and Sark, 155; illustrated by the flora, 198.
Clonque, Alderney, *see* CLANQUE.
Cloud, quantity of, in Guernsey, 145 in Jersey, 151.
Club mosses not found in the Channel Islands, 184.
Clubs in Jersey and Guernsey, 570.
Coast scenery, illustrations of, Alderney, 1, 25; Guernsey, 62, 255, 483; Sark, 81, 287, 298; Jersey, 112, 121, 289, 352, 474.
Cobo Bay, Guernsey, 51.
Coins in common circulation, 571.
Cold, extreme of, in Guernsey, 140.
Coleopterous insects of the Channel Islands, 224.
College, Elizabeth, at Guernsey, 39, 554; Victoria, at Jersey, 95, 553.
Collings, Rev. W., account of his residence in Sark, 87; is the seigneur of Sark, 407.
Collings, Mrs. W., her assistance acknowledged, 190, 218, 219, 220, 230, 231, 235, 240.
Commerce, Chamber of, 556.
Commissioners seized by the Governor at Castle Cornet, 377.
Committees, Public, of Jersey and Guernsey, 528.

Communication, means of, 563.
Confiscation of church property in the islands before the Reformation, 364.
Conger, large specimens caught off the Channel Islands, 212.
Conglomerate, quartzy, in Giffard's Bay, Jersey, 271, 273; compared with the Alderney sand-stones, 274.
Consistory, established in St. Helier's, and St. Peter's Port, in the reign of Elizabeth, 365.
Constable, the, his position in the islands, 521.
Constitution of the Channel Islands, 518; peculiarity of, 543.
Constitution of John, its value and nature, 355.
Contact of sand-stone with granite in Alderney, 267.
Continental character of the island fauna, 301.
Contrôle de la reine, the officer so called in Guernsey, 525; in Alderney, 536.
Conway, Gen., his cromlech formerly in Jersey, 411, *et seq.*
Copper ore found in Herm, 66.
Corallines of the islands, 241.
Corban, the submerged turf or peat of Guernsey, 284.
Corbiére, Guernsey, described, 48; intrusive vein at, 255, 261; a fissure there with limestone breccia, 291.
Corbiéres, the, Jersey, described, 110, 112, 290.
Cordon training for fruit trees. 490.
Cornet Castle, *see* CASTLE CORNET.
Costume of the Channel Islanders, 549.
Cotentin, its rocks recur in Cornwall, 256.
Cottette Point, near the Casquets, 33.
Coupe or Coupée, various promontories so called, 47, 85, 100.
Couperon, the, Jersey, 101.
Cour du Quartier, 533.
Cour en Amirauté, its constitution, 530; and working, 534.
Cour en corps, or full court, 530.
Court houses, 548.
Cousinship in the islands, 549.
Coutances, connection between the islands and the diocese of, 356.
Coutumier, le, of Normandy, the foundation of the island laws, 531.
Cow, Alderney, its characteristics, 480; export of, 510.
Cow-cabbage, Jersey, 477.
Crabbe, Jersey, 105.
Crabbie, Alderney, 20.
Crabs, common in the islands, 232; trade in, 508.
Crête Point, Jersey, 99.
"Creux" or holes, origin of, 263; the term explained, 290; in Guernsey, 46; in Herm, 63; in Sark, 75; in Jersey, 113.
Creux du Derrible, or Terrible, Sark, 75.
Creux Fantomes, Jersey, 114.
Creux Harbour, Sark, 73, 77; vein of steatite there, 265.
Creux Mahie, Guernsey, 46, 49.
Crevichon, account of, 69.
Criminal Court, its composition, 535.
Cromlech, interior of, 407; specimen near St. Heliers, 411; account of, 412; of Guernsey, 413; near Anne Port, Jersey, 518.
Cromwell, Richard, address to from Guernsey, 390.
Crops grown in the islands, 475.
Crustaceans of the Channel Islands, 232; trade in, 508.
Cryptogamic plants abundant in Guernsey, 199.
Cultivation, in the Chaussey Islands, 126; its influence on the flora of the Channel Islands, 199.
Currency, island, 571.
Customary law of Normandy adapted to the use of the islands, 531.
Custom House, English, when first introduced in Guernsey, 399.
Customs of the Channel Islands peculiar, 14, 547.
Cuttle fish and squids, 214.

D.

Daily range of temperature very small in Guernsey, 139.
Dally, Mr., his account of the agriculture of the Channel Islands, 459.
Damp months in Guernsey, 145.
Danby, Earl of, governor of Guernsey, superseded by Warwick, 368.
Danes, often called Northmen or Normans, 329; their history, 344.
Danish origin of Rollo, 329.
Date of the earliest records, 330.
Debt, island laws affecting, 537.
De Carteret family, their manorial residence in Jersey, 120; Sark leased to the, 407.
Decay of Caen stone in Alderney Church, 29.

Dean, the, his office in the islands, 542.
Decomposing rock, in Alderney, 27, 268; near St. Heliers and St. Peter's Port, 462.
Deer formerly in Herm, 201.
Defensive works at Guernsey, 59.
De Hambye, legend concerning, 121, 455.
Dehus or Deuce, the devil, 428.
Deities of the Druids, 419.
De la Court Fund, Guernsey, 557.
Deliberative States of Guernsey, 526.
Denerel or dundrel, 577.
Denudation in the Channel Islands, 247.
Deputies, appointment of in the islands, 521.
Deroute, the channel so named, 91.
Derrible, *see* POINT DU DERRIBLE, CREUX DU DERRIBLE.
Descent of property in the islands, 539.
Destroying power of the waves, 72, 306.
Destruction of rocks going on in Sark, 286.
Detached rocks, 289.
Devonshire, relation between the sponges there and in the islands, 243.
Dews heavy in Guernsey, 146.
Dialects, numerous in the islands, 438; specimens of, 440—451.
Diatomaceæ of the Islands, 193.
Digby, Lord, his intrigues in Ireland, 381.
Diminution in the quantity of water stored in the rock in the islands, 471.
Diogenes Periegetes quoted on the subject of Bacchic orgies in the Channel Islands, 426.
Dipterous insects of Jersey, 230.
Dirouilles rocks, near Jersey, 92.
Diseases common in Jersey, 160; in Guernsey, 161.
Disintegration, depth of, 292.
Dispensary, public, in Jersey, 557.
Dissent in Guernsey, 403.
Dissenting services, 558.
Distribution of winds in Guernsey, 143.
Disturbance and upheavals, 275.
D'Ixcart Bay, Sark, 74.
Dobree, a name common to the islands and to France, 403.
Dobree, Rev. D., his assistance acknowledged, 206.
Doctrines of the Druids, 418.
Dol, Channel Islands once belonged to diocese of, 325.
Dom Bouquet, his Repertorium referred to, 317.
Doorways of houses in Guernsey, 60.
Douet de la Mer, Jersey, 101.
Douvres rocks, 124; wreck off the, 131.
"Douzaine," its nature and composition in Guernsey, 520.
Doyle, Sir John, his speech on roads, 59.
Doyle Column, Guernsey, 46.
Drainage, natural, of Jersey, 92, 117; artificial, 472.
Drayton's Polyolbion quoted, 425.
Druidical remains in Guernsey, 53; Sark, 87; Jersey, 99; Alderney, 268.
Druidic origin of cromlechs considered, 416.
Druidism only a part of the old Keltic religion, 420.
Dry measures of the islands, 576.
Dry months in Guernsey, 145.
Dukes of Normandy, their names probably gothic, 339, 451.
Duncan's "History of Guernsey" referred to, 140.
Dundrel or *denerel*, 577.
Dusii, Keltic deities so called, 428.

E.

Early history of the Channel Islands, 309, 330, 349.
Earthquakes in the Channel Islands, records of, 278.
Ecclesiastical architecture of the islands, 29, 57, 119, 429.
Ecclesiastical arrangements in the islands, in the fourteenth century, 357; at the present time, 541.
Ecclesiastical changes in the islands, 365.
Ecclesiastical courts in the islands, 542.
Ecclesiastical contests between the islands and James I., 367.
Ecclesiastical jurisdiction, 540,
Ecrehou Rocks, near Jersey; old buildings upon them, 16; described, 92.
Ecrivains or solicitors in Jersey, 531.
Education, legal, 545; statistics of, 581.
Educational establishments, 553.
Edward I., harbour of Guernsey ordered to be built in his reign, 40; condition of the islands under, 353.
Edward III., his appropriation of the temporal rights of the Church in the islands, 357; naval battle fought off Guernsey in his reign, 359.
Edward VI., English liturgy introduced in the islands during his reign, 364.
Elective States of Guernsey, 526.

Electric state of the atmosphere in Guernsey, 146.
Elements of the climate of Guernsey, 134.
Elevation, results of, in the islands, 253; mean direction, 260; proofs of, 281, 306; recency of, 463.
Elimbertus, *see* Hilarius.
Elizabeth Castle, Jersey, 115; view of at sunset, 157; attacked in time of Charles II., 386.
Elizabeth College, Guernsey, 39, 554.
Elizabeth, Queen, religious persecutions in the islands during her reign, 364; ecclesiastical changes in her time, 365; charter confirming privileges given by, 396; arbitrary power assumed by the Governor of Jersey during her reign, 519.
Emery said to be found in Jersey, 271.
English liturgy introduced in the islands under Edward VI., 364.
Entomostraca of Guernsey, 235.
Epercherie, landing-place so named, Sark, 78.
Episcopal Sees to which the islands have been successively subject, 365.
Equable temperature of the islands, effect of, 141.
Escape from Castle Cornet of the Commissioners, 377.
Essex Fort, Alderney, 25.
Eutii, or Jutes, their origin, 342.
Etac l', or *le Tas*, Jersey, 109.
Etat l', or *le Tas*, Sark, 73.
Evan of Wales, his attack on Guernsey, 362.
Exemption from arrest in the islands, limitation of, 540.
Exeter, the islands for a short time attached to the See of, 365.
Exhibitions at Oxford, from Elizabeth College, Guernsey, 554.
Expense of the public works at Alderney, 21.
Extreme of cold and heat recorded in Guernsey, 140.

F.

Family ties, the islanders adhere strongly to them, 14.
Fanshawe, R., his proclamation on the landing of the Prince of Wales in Jersey, 380.
Farmhouses of Guernsey, 59; characteristic style of in the islands, 547.
Farming processes, old fashion of those adopted in the islands, 476.
Farms, magnitude of in the islands, 473; distribution of in Jersey, 475.
Faucheurs, les, rocks so called, on the Minquiers plateau, 123.
Fauna of the Channel Islands, summary of, 246.
Fauna and flora of the islands, their bearing on geological questions, 298.
Females, excess of, at St. Helier's, Jersey, 579.
Fermain Bay, Guernsey, 44.
Ferns, rare, at Petit Bot, Guernsey, 48; species found in the islands, 81.
Ferriéres rocks, near Herm, 69.
Feudal relics, 546.
Fig, cultivation of, in the islands, 486.
Filberd does not ripen well in the islands, 487.
Fish, trade in, 508.
Fishermen on the Chaussey Islands, 128.
Fishes of the Channel Islands, 209.
Fissures filled up from mineral veins, 252.
Flints from the chalk, found in the bays of Jersey, 293.
Fliquet Bay, Jersey, 100.
Flora of the Channel Islands, general summary of, 198.
Flowering of plants, early in Guernsey, 141, 497; in the Channel Islands generally, 169.
Fogs in Guernsey, 146.
Food, supply of, in Sark, 89, 549; to the islands generally, 510.
Fornaldar Saga, a story from, 338.
Foraminifera of the islands, 242; fossil species dredged off Guernsey, xii. 295.
Forbes, Edward, his speculations on the distribution of species, 300.
Force of wind in Guernsey, 142.
Foreign plants growing in the Channel Islands, 199, 492.
Foreigners, great number of in Jersey, 581.
Fossil foraminifera dredged off Guernsey, 295.
Fort constructed on the Chaussey Islands, 130.
Fort Essex, Alderney, 25.
Fort George, Guernsey, 59.
Fort Regent, Jersey, raised beach near, 280.
Fort Torgee, Alderney, 20.
Frank empire, extent of, 346.
Frank monasteries, annals of useful, 331.

Franks, the, superseded the Goths, 339.
Free-farm rents in Herm, 405.
French attack on Jersey in 1781, 398.
French character of the natural history of the islands, 300.
French coast, seen from Guernsey previous to bad weather, 158.
French language, used in the courts of law, 534; and in the churches, 542.
French Revolution, its effect on the islands, 403.
French towns, of Normandy and Britany, named from Saints, 311.
Frescoes in the churches, 430.
Fresh-water fish of the Channel Islands, 213.
Fret Point, Jersey, 114.
Froissart, his account of Evan of Wales, 362.
Fruits, cultivation of in the islands, 484; exports of, 506.
Fuchsia, growth of in Guernsey, 499.
Fucus of various kinds used for making barilla, 129.
Fungi of Sark, 72; of the islands generally, 190.

G.

Gallic church not missionary, 317.
Gallienne, Mr., his assistance acknowledged, 206; his work in the Guernsey Museum, 555.
Game formerly abundant in Herm, 67.
Game laws in the islands, 538.
Garden lands, value of near St. Heliers, 474.
Gardens of Guernsey, 56.
Garonne, the, the early Iberic frontier, 409.
Gascony held with the islands under Henry III., 357.
Gaudion, Mrs., her assistance acknowledged, 192.
Gaul, Keltic at an early period, 408.
Genoese connected with Guernsey in the fourteenth century, 453.
Geographical position of the Channel Islands, 4; of Alderney, 19; of Guernsey, 36; of Sark, 71; of Jersey, 92; of the Chaussey Islands, 124.
Geological interest of Alderney, 30.
Geology and mineralogy of the Channel Islands, 247, 276.
Geology, bearing of fauna and flora of the islands on, 298.
George, Fort, Guernsey, 59; aloes planted on the cliffs near, 500.
George III., leases of Herm, &c. granted in his reign, 405.
Germanization of the coasts of Normandy and Britany, 313.
Giffard's Bay, Jersey, 103; quartz conglomerate at, 271.
Gladiolus, growth of in Guernsey, 498.
Glens of Guernsey, 55.
Gneissic rocks of the islands, 251.
Goose Green, Jersey, graperies at, 485.
Gorban, *see* Corban.
Gorey, Jersey, 98.
Gothic origin of the names of the dukes of Normandy, 339.
Gothic hypothesis of the peopling of the islands, its value may be determined by collating codes, 350.
Goths, progress of, in Europe, 339.
Gouffre, the, Guernsey, 49.
Gough, Mr., his notes on Jersey cromlechs, 412.
Gouliot Caverns, Sark, described, 81, 288; Rock and Passage, 84.
Gouray Harbour, Sark, 83.
Governor of Guernsey, complaints of and attempt made to limit his power under James I., 366.
Grand Sarrazin, its meaning, 452.
Grand Havre, Guernsey, 52.
Grand Mare, the pond so named leased under George III., 405.
Grand Rocque, Guernsey, 51.
'Grande Ile' of the Chaussey group, 125.
Grande Pegane, Sark, 80.
Granite or syenite of Herm, 64, 505; of Chaussey, 125, 505; of Guernsey, 260, 502; of Sark, 264; of Jersey, 270, 504.
Granitic origin of soils in the Channel Islands, 465.
Granville, approach to the Chaussey Islands from, 124.
Grape, cultivation of in Jersey and Guernsey, 485.
Grasses, of the Channel Islands, 180; curious kinds in Guernsey, 500.
Gravel of rotten syenite, 292.
Green Island, Jersey, 97.
Greenwich, its mean temperature compared with that of Guernsey and Jersey, 148.
Greffier, the officer so named, 525.
Grève au Lançon, Jersey, 107.
Grève d'Azette, Jersey, 97.
Grève de la Ville, Sark, 79.

Grève de Lecq, Jersey, 105; natural stew at, 213.
Grosnez, Cape, Alderney, 20; Cape or Point, Jersey, intrusive veins near, 256; headland so called, 273; ruined arch at, 501.
Groups of islands and rocks forming the Channel Islands, 15.
Grouville Bay, Jersey, chalk flints at, 274; incursions of the sea at, 462.
Grunes, rocks so named, 38.
Guernsey, high water at, 9; general account of, 36; highest elevation, 37; its climate typical, 132; its richness in certain plants, 198; axis of elevation through, 260; effect of the constitution of John upon, 356; early privilege of neutrality limited to, 358; more parliamentary than loyal at commencement of Civil Wars, 367; does not accept the canons of church government of Dr. Bandinell, 367; its inhabitants pardoned by Charles II., 391; cromlechs of, 413; specimen of its dialect, 441; derivation of its name, 452; soil of, 463; peculiarities of its breed of cows, 480; stone trade and quarries of, 503; militia force, 551; hotel accommodation, 567; value of the pound currency, 571; value of the pound weight, 573; local measures of, 575; revenue and debt of, 582.
Guernsey lily, 499.
Guernseymen, their opinion of their own exertions during the Civil Wars, 390.
Gull Cliff, Guernsey, 49.

H.

Ha! Ro! appeal so called, 538.
Habeas Corpus Act, till lately resisted in the islands, 540.
Habits and customs of the islanders, 546.
Hail in Guernsey, 145.
Hambye, Tale of, 120, 455.
Han, the plant so called, 179, 516.
Hanging rock, Alderney, 25.
Hanois Rocks (Hanways), 38; lighthouse on, 49.
Harbour of Alderney, 21; of Guernsey, 40; of St. Helier's, Jersey, 95; of St. Catherine's, Jersey, 99.
Hardness, effect of different degrees of, in the wearing of rocks, 260.
Hare, the, reintroduced into Guernsey, 201.
Harts-tongue fern, group of, 184.
Havelet, Guernsey, raised beach at, 280.
Haviland Vale, Guernsey, 54.
Haviland, Mr., his investigation of the claim of the constitution of John to authenticity, 356.
Havre Gosselin, Sark, 83.
Hay crops in the islands, 476.
Haye du Puit, Guernsey, 58.
Hedges and enclosures, 473.
Height of Alderney, 19; of Guernsey, 37; of Sark, 71; of Jersey, 92.
Helerius, history of, 320.
Hemipterous insects of Jersey, 230.
Henry, T. H., Esq., his enquiry concerning Guernsey granite, 502.
Henry I. and II., allegiance of the islands during their reigns, 353.
Henry III., the islands mentioned as held by England during his reign, 358.
Henry V. banishes the disaffected clergy, 357; advowsons of the islands annexed to the Crown during his reign, 541.
Henry VI., the oldest charter concerning neutrality in his reign, 359; transfer of the islands to the diocese of Salisbury, 365; charter conferring freedom from taxation, 396.
Henry VII., accounts of the islands during his reign, 363.
Heritage, Court of, in Guernsey, 533.
Herm, account of, 62; disintegration of rocks there, 262; veins at, 263; raised beach at, 281; sands of, their geological character, 294; history of, 405; antiquities of, 413; soil of, 464; abundance of sea-weed at, 468; granite of, 505.
Hermitage Rock, Jersey, 116, 323.
Heylin, his account of the canons of church government accepted by Guernsey, 367; his stay in Guernsey and book on the islands, 368.
Highest and lowest temperature in Guernsey, Jersey, and Greenwich, 140.
Hilarius, or Helerius, a saint in the early martyrology of Jersey, 320.
Hilton, Dr., his crab, 233; assistance acknowledged, 242.
History of the Channel Islands, summary of earliest, 349.
Histories of Normandy and England,

bearing of the discussion concerning the origin of the Normans on these, 351.
Hog's Back, Sark, 75.
Holdings of land in the islands, 473, 539.
Hooper, Dr., on the temperature of Jersey, 149; on the sanitary condition of that island, 160.
Hornblendic rocks, composition of, 461.
Hornstone in Jersey, 271.
Horses, breeds of, in the islands, 482.
Horticulture of the islands, 483.
Horticultural Society of Jersey, 555.
Hoskins, Dr., his table of the elements of climate of Guernsey, 134; remarks on the winds of Guernsey, 143; his account of the sanitary state of Guernsey, 160; his notice of an earthquake in Guernsey, 279.
Hospitality of the islanders, 551.
Hospitals in Jersey and Guernsey, 558.
Hotel accommodation in Sark, Mrs. Hazlehurst's, 88; generally in the islands, 569.
Hougue Bie, Jersey, 120, 456.
Houses, of Guernsey, 57; statistics of, in Jersey and Guernsey, 579.
Huissiers, the law officers so called, 525.
Humidity, degree of, in Guernsey, 145; in Jersey, 153.
Hyde, his influence exercised to induce Charles to go to France, 381.
Hydrangea, flowers freely and well in the islands, 498.
Hymenopterous insects of Jersey, 225.
Hypersthenic rocks filling veins in all the islands, 259.

I.

Iberic element in Gaul at an early period, 409.
Icart Point and Bay, Guernsey, 47; irregular hardness of the rock at, 262.
Iceland, the country of the sagas, 337.
Icelandic sagas, value of, 331.
Igneous rocks, their history taught in the Channel Islands, 249.
Illicit trade in the islands, measures taken to stop it, 401.
Implements, ancient, 327; agricultural, used in the islands, 477.
Importance of early names in determining history, 311.
Incomes of the islanders small, 550.
Incursions of the sea, notice of, in early times, 462.
Independent manners of the shopkeepers, 547.
Independents of Guernsey, 404.
Industry of the islands after the Restoration, 394.
Influence of islands, no measure of their value in historical enquiry, 309.
Inhabitants of the Chaussey Islands described, 126.
Inhabited islands of the Channel group, list of, 16.
Inheritance, law of, noticed by Heylin, 368; described, 537.
Inscription on a menhir, 420.
Insects of the Channel Islands, 224.
Insular faunas and floras, the interest of, 299.
Interest of insular history, 309.
Intermarriages common in the islands, 548.
Internal evidence of the origin of the Norman, 331.
Intrusive veins in Guernsey, 255.
Invasion of Britain from the Channel Islands by the Jutes, 340.
Invertebrata of the Channel Islands, 214.
Iodine, manufacture of, in the islands, 514.
Irish church, the missionary church in the middle ages, 325, 326.
Irish mutiny in Guernsey, 402.
Irish origin of the Christianity of Britany and the Channel Islands, 326.
Irrigation in the islands, 472.
Islands, Channel, see CHANNEL ISLANDS.
Islands, near Alderney, 31; near Guernsey, 61; near Sark, 70; near Jersey, 92, 120; near Chaussey, 123.
Isle of Wight, relations between this and the Channel Islands, 352.
Isopodous crustaceans of the islands, 234.
Itinerary of Antoninus quoted as to the position of Sena, 427; as to the names of the Channel Islands, 452.
Ixias flourish in Guernsey, 499.

J.

Jacobite minority in the islands after the Revolution, 395.
James I., his covert attempt to force the Anglican church on the islands, 366; the States remodelled during his reign, 520.
James II., his reign unimportant in the islands, 394.

James, Mr., his discovery of a fern in Guernsey, 182.
Jorbourg Point, Guernsey, 47; defences across it, 76, 429; cliffs at, 262.
Jeremie, Mr. Peter, his assistance acknowledged, 519.
Jersey, its general outline and physical features, 8; high water at, 9; general account of, 91; climate of, 148; sunset, view of, 157; geology of, 269; held by the French in the time of Henry VI., 363; more Anglicised than Guernsey in church matters under James I., 366; more loyal than parliamentary at commencement of Civil War, 367; French attack on, 398; cromlechs of, 412; language of, 440; derivation of its name, 452; soil of, 462; trade of, 506; constitution of States, 526; defective state of law courts, 535; militia of, 551; hotel accommodation, 568; value of the pound currency, 571; value of the pound weight, 573; local measures of, 575; revenue and debt of, 582.
Jethou, account of, 68; disintegration of rock there, 262; later history of, 405; soil of, 465.
John, King, importance of his reign in the Channel Islands, 354; the so-called constitution of, 355; change of episcopal allegiance during his reign, 365.
Johnson, Mr., his assistance acknowledged, 228.
Judael, his history connected with that of St. Sampson, 317.
Jurats, their office and appointment, 525.
Jurisdiction, summary, of the Royal Court, 533.
Jury, trial by, in Jersey, 533.
Jutes, settlement of, in England, 340.

K.

Kaolin found in Sark, 296.
Kelp, manufacture of, 514.
Keltic element, absent in the Channel Islands, 14.
Keltic names, in Britany and Normandy, 312.
Keltic portion of France, Britany, 325.
Keltic religion, partly Druidism, 417.
King, Rev. S., his observations on the climate of Jersey, 148.
Kistvean, meaning of the term, 411.
Kitchen garden produce in the islands, 477.

L.

La Coupe, Jersey, 100.
La Crête, Jersey, 99, 272.
La Hague, Cape, near Alderney, 18.
La Hougue Bie, Jersey, 120, 456.
La Houle, Jersey, 104; veins near, 256.
La Motte, or Green Island, Jersey, 97.
Lamprey found in the Channel Island seas, 213.
L'Ancresse, Guernsey, 39; antiquities of, 413; quarries at, 503.
Land, nature of tenure in the islands, 473, 539; danger of purchasing it in the islands, 538.
Land and freshwater univalve shells of the Channel Islands, 216.
Landes, les, Jersey, 109.
Landing accommodation, 567.
Landing of Charles, Prince of Wales, in Jersey, 378.
Landing-place in Sark, no place to be found that deserves the name, 71.
Language, the key to the history of the Scandinavians, 332; of the islands, 431; specimens of, 440.
'L'Approbation des lois,' the work on the laws so called, 532.
La Pule, Jersey, 109, 289.
Larbalestier, Mr. C., his list of Jersey lichens, 189.
La Rocca, Jersey, 111.
Last changes on the earth, their nature illustrated in the Channel Islands, 249.
Latitude and longitude of Alderney, 19; of Guernsey, 36; of Jersey, 92.
La Tour, Jersey, 102.
Laurel and Rose factions in Jersey, 549.
Laws of the islands, whence derived, 531.
Leaf-cutter bee, its habits, 225.
Leasehold tenure in the islands, 473.
Le Cornu, Mr., his report on the agriculture of the Channel Islands, 459.
Le Couteur, Col., his identification of the Jersey pound weight, 573; of the Jersey gallon, 576.
Le Couteur, Mrs., her assistance acknowledged, 488.
Lefebvre, Col., assists Major Manby to quell a mutiny, 402.
Legal education, 545.
Legend, of La Hougue Bie, Jersey,

120, 455; of St. Sampson, 317; of St. Hilarius, 320; rarity of in the islands, 455.
Le Lievre, the Misses, their contributions to the flora of Guernsey, 175, 192.
Le Lievre, Mr. P., his assistance acknowledged, 218, 220, 234, 235, 242.
Le Mesurier family in Alderney, 30.
Le Pelley family, once lords of Sark, 407.
Lepidopterous insects of the Channel Islands, 226.
Le Rée Bay, Guernsey, 51.
Les Fauchcurs rocks, on the Minquiers plateau, 123.
Les Landes, Jersey, 109.
Les Mouriers, Jersey, 104.
Les Thielles, Guernsey, veins at, 261.
L'Etac, or *le Tas*, Jersey, 109.
L'Etat, or *le Tas*. Sark, 73.
Leti, colonists so called, 347.
Library, public, in Jersey, 556.
Lichens of Jersey and Guernsey, list of, 187.
Lieutenant-governor, his position in the islands, 523.
Lieutenant-governor of Jersey, claims important rights, 519.
Life, value of, in the islands, 579.
Light-houses on or near the Channel Islands, 17; on the Casquets Rocks, 33; on the Hanois Rocks, 50; on the Chaussey Islands, 130.
Lihou Island, Guernsey, account of, 51; raised beach at, 280; history of, 405.
Lily, Guernsey, 499.
Limitation of governor's powers in Guernsey attempted, 366.
Limpet shells found in cromlechs, 415.
Liquid measures in the islands, 576.
'Lit de fouaille' described, 546.
Literature, scientific, of the islands, 260; general, 431.
Little Sark, 83; its worn appearance, 264.
Liturgy, English, introduced into the islands during the reign of Edward VI., 364.
Litus Saxonicum, the northern coast of France, 342.
Livre tournois, its value, 573.
Llydaw, the Armoricans so called, 315.
Lobster, fishery of, in the Chaussey Islands, 128; trade in Guernsey, 508.
Lodgings in the islands, 568.
Longitude, *see* LATITUDE.
Longueville manor house, Jersey, 120.
Longy Bay, Alderney, 24; sand-stone there, 266.
Lowest and highest temperatures in Guernsey, Jersey, and Greenwich, 140.
Lowland Scotch contains much Norwegian, 333.
Loyalty, a characteristic of the islanders, 13; not wanting at the Restoration, 373.
Lukis, Dr., his list of the mollusca of the islands, 214; his list of beetles, 221; his assistance acknowledged, 224, 229; his discovery of a synapta, 238; dredged fossil foraminifera off Guernsey, 296.
Lukis, Mr. F. C., his assistance acknowledged, 190, 206, 210, 234; his discovery of *phyllosoma* in Guernsey, 233; his papers on the geology of the Channel Islands, 260; his account of *Corban*, 284; his notes on cromlechs, 414; remarks on ancient pottery, 415; notice of his museum, 555.
Lyster, Mr., G. F., his plans of harbours—Guernsey, 41; Jersey, 95.

M.

Maculloch, Dr., his paper on the Channel Islands' geology, 260.
Magloire, his history, 324.
Magnesia prevalent in the soil of the islands, 460.
Magnesian minerals, their abundance in the Channel Islands, 359.
'Maitresse Ile' of the Minquiers, 123.
Mammalia of the islands, 201.
Manby, Major, quells a mutiny in Guernsey, 402.
Manners and customs of the islanders, 545.
Manorial courts, 547.
Manor houses, in Guernsey, 57, 547; in Jersey, 119, 547.
Manure, importance of, for island farming, 465; quantity of vraic used as, 467.
Map, its use in teaching the geology of the islands, 256.
Marchmen, or Marcomanni, how referred to, 345.
Marine univalve shells of the Channel Islands, 215.
Markets, public, 561.
Marsh plants of the Channel Islands, 179.

Martin, Mr., of Guernsey, his manufacture of arrowroot, 516.
Martyrs, Protestant, during Mary's reign, 369.
Mary, religious persecutions in the islands in her reign, 364, 369.
Massey Perrotine, a martyr during Queen Mary's reign, 369.
Maximum and minimum temperatures of Guernsey, Jersey, and Greenwich, 140.
May, Mr., his remarks on the Alderney climate, 155; his assistance acknowledged, 213.
Mean annual and monthly temperature, of Guernsey, 135; of Jersey, 149.
Means of communication with England and France, 563.
Measures of various kinds in use in the islands, 575.
Mechanical structure of crystalline rocks, 251.
Mechanics' Institutes in the islands, 555.
Medlar, the fruit does not succeed in the islands, 487.
Menhirs, meaning of term, 411; view of, 420.
Metamorphic geology of the Channel Islands, 250.
Methodism in the islands, 404.
Metivier, Mr. G., his *Rimes Guernésiaises* quoted, 441.
Mica, vein of, in Jersey, 273.
Military defences of Alderney, 23; of Guernsey, 59.
Military importance of the Channel Islands, 13.
Militia force, how constituted, 552.
Mill Brook, Jersey, 118.
Mineralogy and Geology of the Channel Islands, 247, 276.
Minerals found in the islands, xii., 73, 297.
Mines of Sark, 87.
Minimum and maximum temperatures of Guernsey, Jersey, and Greenwich compared, 140.
Minquiers Rocks, 123.
Miracles by St. Sampson, 318; by St. Helerius, 322.
Mirage in the Channel Islands, 158.
Modern geological changes in the Channel Islands, 277.
Moie de Mouton, Sark, 80.
Moinerie in Sark, a former religious house, 406.
Moisture of the air in Guernsey, 145.
Mollusca of the Channel Islands, 214.
Monics in use in the islands, 571.
Mont Mado, Jersey, granite of, 270, 505.
Mont Orgueil Castle, Jersey, account of, 98; Prynne's account of, 371; view of, 372; surrenders to Blake, 386; view of gateway, 469.
Mortgage, law of, 537.
Mosses of Guernsey and Jersey, 185.
Moths of the Channel Islands, 226; comparison of species, 302.
Moulin Huet, Guernsey, 47, 55; caverns at, 262; fissure in, 291; view of, 483.
Mount Sorrel granite compared with that of Guernsey, 502.
Mouriers, les, Jersey, 104.
Moye Point, Guernsey, notice of, 48; hard rock forms the headland, 262.
Moye Point, Jersey, 113.
Mulberry, cultivation of, in the islands, 487.
Mullet, red and grey, caught off Guernsey, 212.
Museums, excellent, in Guernsey, 555.
Musical societies in Jersey, 557.
Mutiny in Guernsey among the Irish, 402.
Myriapodous insects of Jersey, 230.

N.

Naftel, Mr., his delineation of Guernsey scenery, 52.
Names, importance of, in learning the history of old places, 311.
Names of Channel Island groups, 16; absent in the Norse sagas, 335.
Names of the dukes of Normandy, gothic origin of, 339, 451.
Nant, Mr., his list of Guernsey apples, 488.
Natural history of the Channel Islands, 10, 163.
Naval battle fought off Guernsey in the reign of Edward III., 359.
Needles of rock, 289.
Neo-Druidism, system of, 422.
Neuropterous insects of Jersey, 225.
Neutrality, account of the privilege of, in the islands, 358, 396.
Niche in St. Peter Port Church, Guernsey, 541.
Nightingale very rare in the Channel Islands, 205.
Noirmont Tower, Jersey, 114.
Norman, meaning of the name, 328.

Norman character, of the islanders, 14; of the fauna and flora of the islands, 299.
Norman origin of the Channel Islands population disputed, 325.
Norman, Rev. A. M., his assistance to Dr. Bowerbank, 243.
Normandy, how Germanised, 329.
Normans, enquiry as to their origin, 310; reason for discussing their history, 329.
Norse indications, absent in the Channel Islands, 335.
Norse sagas, difficulty of giving an opinion concerning them, 335.
Northmen, frequently Danes, 329; their name applied by the Franks, 346.
Norwegian spoken where the Northmen visited, 332.
Novelty, absence of, in the island fauna and flora, 299.
Nudibranchiate molluscs of the Channel Islands, 216, 218.
Number of islands and groups of rocks in the Channel group, 15.

O.

Object of the work stated, 15.
Occupations of the people, statistical account of, 581.
Orange trees, remarkable, in Guernsey, 498.
Orchards formerly more common in Jersey than now, 474.
Orders in Council have the force of law in the islands, 532.
'Ordonnances' of Jersey made by the States, 529; of Guernsey made by the Royal Court, 530.
Orgueil, Mont, *see* MONT ORGUEIL.
Origin of the Normans, reason for discussing the question, 329.
Origin of the sagas, 337.
Ormers, eaten in Sark, 89; their shells formerly exported, 510.
Ortach Rock described, 32; figured, 34; wild fowl breed there, 207.
Orthopterous insects of Jersey, 225.
Osborne, Sir Philip, his influence in Guernsey, 373.
Ot lingua Saxonica, its meaning and application, 342.
Oyster trade in Jersey, 508.
Ozone observations in the Channel Islands, 146.

P.

Palgrave, Sir F., his notice of the want of value of the Sagas for history, 337.
Pampas grass in Guernsey, 500.
Parasitic crustaceans of the Channel Islands, 235.
Pardon granted to the inhabitants of Guernsey after the Restoration, 392.
Parochial officers of the islands, 521.
Parochial schools, 553.
Parsimony of the islanders, 548.
Partridge, red-legged, formerly in the island, 208.
Passe au Singe, or Swinge, 32.
Paternoster rocks, near Jersey, 92.
Peach, cultivation of, in the island of Guernsey, 486.
Pears, cultivation of, in Jersey and Guernsey, 489; trade in, 507.
Peat beds, at Guernsey, submerged, 282.
Penny banks, 557.
Penzance, comparison of its climate with that of the Channel Islands, 156.
Perelle Bay, Guernsey, 51.
Persecutions under Mary and Elizabeth, 364, 369.
Personal property, law of division of, 537.
Petit Bot Bay, Guernsey, 48, 55; rare ferns at, 183; cayerns at, 262.
Petit Port, Guernsey, 46.
Petite ecôle, Guernsey, 554.
Petrel, Storm, Mr. Gallienne's remarks on, 207.
Phenicians probably reached the islands, 410.
Phosphorescence of the sea, cause of, 239.
Phosphorus absent from the soil and subsoil of the Channel Islands generally, 461, 478.
Physical features of the Islands, 7.
Picard dialect, specimen of the, 449.
Picturesque beauty of the Channel Islands, causes of, 277.
Pier, landing at, 567.
Pierced rocks explained, 289.
Pierre au Vraic, 32.
Pierres de Lecq, Jersey, 105.
Pierson, Major, his defence of Jersey, 398.
Pigs, breed of, in the islands, 482; imports of, 510.
Pinnacle Rock, Jersey, 109, 289.
Piquet, Mr., his additions to the Flora of Jersey, 175; his list of Jersey

mosses, 186; his assistance acknowledged, 190, 224, 229, 230, 242.
Pirates in the Channel in the time of Helerius, 323.
Plaids d'Heritage, the court so called, 530; its business explained, 534.
Plan of Braye Harbour, Alderney, 22; of Guernsey harbour, 41; of Jersey harbour, 95.
Plat Saline, Alderney, 20.
Platte Roque, 273.
Pleadings in the courts, how conducted, 535.
Pleinmont Point, Guernsey, 50.
Plémont Point, Jersey, 106.
Plough, great, used in the islands, 477.
Plum, cultivation of, 486.
Plymouth brethren, their chapels, 560.
Poids de marc, its value, 573.
Poingdestre, Mr., his work on cromlechs, 413.
Point du Derrible, or Point Terrible, Sark, 75; rocks at, 264.
Poisonous soil in Guernsey, 463.
Police court in the islands, 535.
Polyolbion, Drayton's poem of that name quoted, 425.
Polyzoa, their structure, 219.
Pommier Banks, 33.
Pomponius Mela on the Gaulic deities, 427.
Ponds of brackish water with sea and fresh-water fish in Jersey, 111; in Jersey and Guernsey, 213.
Pontac, Jersey, 97.
Population of the islands, at the commencement of the Civil Wars, 368; in 1851 and 1861, 578.
Population of the Chaussey Islands, migratory, 129.
Poquelays or cromlechs described, 428.
Porphyries of the Channel Islands, 251.
Port-es-Sees, Sark, 83.
Port du Moulin, Sark, serpentine at, 264.
Port la Jument, Sark, 80.
Portelet Bay, Jersey, 115.
Porters, arrangements for on landing, 568.
Postal arrangements very incomplete in the islands, 566.
Pot, the, a cavern so called in Sark, 73.
Potash, small quantity of, in the soil of all the islands, 465.
Potatoes, quantity exported and imported, 476, 506.
Potter's clay found in the islands, 296.
Pottery, ancient, figured, 415.
Poultry, breeds of, in the islands, 482.
Pound sterling, its value in island currency, 572.
Pound weight used in the islands, 573.
Presbyterian, element in Jersey, 367; discipline, influence of, 542.
Pressure of air in Guernsey, 142.
'Prevôt,' the sheriff of Guernsey so called, 525.
Prince's Tower, Jersey, 120.
Privateering in the islands during the war of the French revolution, 403.
Privilege of neutrality in the islands, history of, 358.
'Procureur de la Reine,' the officer so called in Jersey and Guernsey, 525; in Alderney, 536.
Produce of land in Jersey, 475.
Projets de loi, framed by the Royal Court of Guernsey, for the approval of the states, 530.
Promontories in Guernsey and Sark rendered defensible, 76; formed by elevation, within certain limits, 257.
Property, laws affecting the succession of, 537.
Protestantism of the islands chiefly Calvinistic, 365; very marked during the Civil Wars, 573; always puritanical, 541.
Provençal, a distinct language during the middle ages, 433.
Prynne, his description of Mont Orgueil, 371.
Public business of the islands conducted by committees, 528.
Public debt of the islands, 582.
Public library of Jersey, 556.
Pule, la, *see* LA PULE.
Puritanical feeling of the islanders, 542.
Pyrenees, cromlechs of the islands compared with those in the, 416.

Q.

Quadrupeds of the Channel Islands, 200.
Quakers in Guernsey, 404.
Quarries, sand-stone, in Alderney, 23; granite, in Chaussey, 129; in Guernsey, 504; in Jersey, 103, 505.
Quarter of wheat, value of, 539.
Quartiers or law terms in the islands, 533.
Quartz rock abundant in the islands, 260.

Quartzite in Jersey, 271.
Quatrefages, Mr. A. de, his account of the Chaussey archipelago, 128, 130; notice of the *synapta* at Chaussey, 238; his view of the recent separation of the Channel Islands controverted, 305.
Quayle's report on the state of agriculture in the islands referred to, 459.
Queen's Advocate, or Contrôle, nature of the office, 525.
Queen's Procureur, nature of the office, 525.
Quenvais, the, Jersey, described, 93; explained, 294, 462.
Quorum of the various courts of law, 530.

R.

Rabbits common in Herm, 64.
Race, or Ras, of Alderney, 18.
Radiata of the Channel Islands, 237.
Rain-fall in Guernsey, 144; Jersey, 151; Alderney, 155: in the islands generally, 470.
Rain-gauge and other instruments used in meteorological observations in Guernsey, 133.
Raised beaches, 279.
'Rambles of a Naturalist,' by M. de Quatrefages, quoted, 128, 130.
Range of temperature in Guernsey, 138; in Jersey, 149.
Rat, the black species found in some of the islands, 201.
Rat island, Alderney, 24.
Reading rooms, 569.
Recent separation of the Channel Islands from the continent considered, 305.
Rectors of the islands, their political position, 525.
Red deer formerly in the islands, 201.
Red-legged partridge formerly in the Channel Islands, 208.
Refraction, irregular, in the islands, 158.
Refugees, French, their propagation of Calvinistic doctrines, 365.
Registration of Acts of Parliament in the islands necessary, 533; of mortgages, 537.
Religious establishments in the islands before the Reformation, 364.
Rent of land in the islands high, 475.
'Rents,' peculiar island meaning of the term, 539; a common investment, 549.
Reptiles of the Channel Islands, 208.
Revenue and debt of the islands, 582.
Rhododendrons, cultivation of in the islands, 497.
Rich soil, properly so called, not found in the Channel Islands, 465.
Right of purchase or pre-emption of land by the lord of the manor, 538.
'Rimes Guernésiaises' quoted, 441.
Ripening of fruit early in the islands, 485.
Road metal, Guernsey granite used for, 503.
Roads of Guernsey, 59; of Jersey, 118.
Roche Pendante, Alderney, 25, 266.
Rochers, les, Alderney, 30.
Rocks, near Guernsey, 37; of the Channel Islands, list of, 297; at Beau Port, Jersey, 307.
Rocquaine Bay, Guernsey, 50.
Rollo, his origin, 329; Icelandic account of his history, 338; doubts about his biography, 351; probably Gothic, 351; appeal to, 538.
Roman, antiquities in the islands, 429; element in the Norman character, 310.
Romans, possibility of their having helped to construct the Druidical monuments considered, 422.
Rondnez Point, Jersey, 103.
Rotten stone found on the Chaussey Islands, 127.
'Roulette des Fées,' possible origin of, 416.
Roustel Rock, near Guernsey, 61.
Royal Agricultural Society, prize memoir on the agriculture of the islands in its journal, 459.
Royal charters have the force of law in the islands, 532.
Royal Court, composition of in Jersey and Guernsey, 525; power of in Guernsey, 529; in Alderney, 536.
Royal Square, Jersey, 95.
Rozel Bay, Jersey, 101.
Ruined arch at Cape Grosnez, Jersey, 109, 501.
Rufus, allegiance of the islands during his reign, 353.
Rullecourt, his attack on Jersey, 398.
Russel Channel, 34, 61.
Rylands, Mr. T. G., his assistance acknowledged, 195.

S.
Sagas of no value as historical documents, 336.
Sagas, Icelandic, 331.
Saie Harbour, Jersey, 101; notice of boulders, 293.
Saints Bay, Guernsey, 47.
Salerie Battery, Guernsey, 353.
Salisbury, the islands for a short time attached to the See of, 365.
Samarez, or Saumarez Bay, Jersey, 97.
Sambule, rocks so called, 38.
Sand-eeling at Guernsey and Jersey, 212.
Sands of the shores, 294-5; of the coast of Herm, 65; of Jersey, 462.
Sand-stone, of Alderney, used for Guernsey buildings, 23; its probable age, 269; of the Casquets, 257; of Bouley Bay, 275.
Sanitary condition of the Channel Islands, 160.
Saragouzais, Les, who they were, 452.
Sardriére rock noticed, 70.
Sark, account of, 70; the harbour, 77; the caverns, 79, 82; the coupée, 35; the climate, 155; the zoophytes, 241; geology of, 263; earthquake near, in 1690, 278; history of, 405; antiquities of, 413; the dialect, 439; soil of, 464; little weed there, 468; drainage in, 471; has an independent legal existence, 519; its governing body, 521; court of, 537; its militia, 551; hotel accommodation, 569; its measures, 577.
Sark, Little, 83.
Sauchet, Jersey, 102.
Sault de San Jehan, Sark, 81.
Saumarez Manor House, Guernsey, 57.
Saumarez, a common family name in the islands, 97. *See also* SAMAREZ.
Savings banks, 557.
Saxon as well as Danish element of the population of Britany, 346.
Saxon chronicle, use of, 331.
'Saxon-shore,' the coast so called, 313.
Saxons and Goths fraternised, 342.
Saxons or Germans, their habits before the settlement of the islands, 313.
Scandinavian institutions often called Norman, 310.
Scandinavians, sound inferences as to the history of, 332.
Scenery of the Channel Islands generally, 11, 276; of Guernsey, 52; of Herm, 63; of Sark, 72; of Jersey, 93.
Schôle Bank, 34.
Scholefield, Dr., on the climate of Jersey, 160.
Schomburgk, Sir Robert, his account of the habit of rubbing stones in Demarara, 416.
Schools, parochial, 554; attendance at, 581.
Scythian population introduced into Gaul, 315.
Sea-anemones, notice of, 240.
Sea-bottom around the Channel Islands, 6.
Sea-horse (hippocampus) occasionally found in Guernsey, 213.
Seaside plants of Jersey and Guernsey, 177.
Sea-slugs of the Channel Islands, 216, 218.
Seasons, mean temperature of, in Guernsey, 136; in Jersey, 149.
Sea-weed, of Chaussey, 129; list of species found in the Channel Islands, 191; its value for economic purposes, 512.
Secondary and tertiary rocks almost absent in the Channel Islands, 248.
Section, across the British Channel, 6; from Casquets to Cape la Hague, 18; across Guernsey, 36; from Guernsey to Sark, 69; across Jersey:—physical, 91, and geological, 270; through the Minquiers and Chaussey Islands, 122.
Sedges, and other pond and marsh plants of the Channel Islands, 179.
Sees, various, to which the islands have been ecclesiastically attached, 365.
Seigneurie, the, in Sark, 87.
Seignie Bay, Sark, 80.
Sena, an island so named, probably one of the Channel Islands, 427.
Separation of the Channel Islands from the Continent not recent, 305.
Serpentine in Sark, 264.
Services at churches and chapels, 560.
Shales of Jersey, 117, 271.
Sharks occasionally found off the Channel Islands, 213.
Sheep, breed of, in the islands, 482.
Shell beach of Herm, 65.
Shells buried in cromlechs, 415.
Shrimping at the Chaussey Islands, 128.
Shrimps more common in Jersey than in Guernsey, 233.

Shrubs and trees of the Channel Islands, 167; cultivated and tender kinds, 492.
Silver ore, veins containing, in Sark, 263.
Singe, Passe du, or Swinge, Alderney, 32.
Sixties and Forties, divisions of society so named in Guernsey, 549.
Size of individuals of invertebrata in the fauna of the islands, 302.
Slates of Jersey, 117; of Guernsey, 257.
Slavonians of the Baltic probably reached the islands, 410.
Small farming, advantages of, 479.
Smith, Major, R.M., his additions to the flora of Guernsey, 175; his list of Guernsey mosses, 186.
Smuggling, suppression of in the islands, 399.
Snails, slugs, &c., of the Channel Islands, 216.
Snow in Guernsey very rare, 145.
Society, state of in Jersey and Guernsey, 549; Agricultural and Horticultural, 556.
Soil of the islands, account of, 460; poisonous variety in Guernsey, 463; not naturally rich, 465.
Solicitors in Jersey, number of, 531.
Song birds in the Channel Islands, 205.
Sorel Point, Jersey, 104.
Sound of Chaussey, 128.
Spain, retreat of the Goths into, 339; threatens the Channel Islands, 372.
Spaniards, connected with Guernsey during the fourteenth century, 452.
Spanish fleet, battle with, off the islands in 1348, 360.
Spiders of Guernsey, 230.
Sponges of the Channel Islands, 243.
Spring, its mean temperature in Guernsey, 137; flowers of, in Guernsey, 175.
Square measure in the islands, 575.
St. Andrew's Valley, Guernsey, 64.
St. Apolline's chapel, Guernsey, 430.
St. Aubin's, Jersey, 115; sand and gravel pits there, 292.
St. Brelade's, Jersey, the bay, 114, 121; the church, 328, 430.
St. Catherine's, Jersey, the harbour, 99; rocks there, 272; geology of, 274; view of, 352.
St. Clement's Bay, Jersey, 97.
St. George estate, Guernsey, 58.
St. Helerius, his history, 320.
St. Helier's, Jersey, town and harbour, 94; raised beach, 280; cromlech at, 411; population of, 579.
St. Marculf visited by St. Helerius, 322.
St. Martin's Porch, Guernsey, 57.
St. Mary's, Jersey, its church, 547.
St. Ouen's Bay, Jersey, 110; pond there, 213; battle near, 385.
St. Ouen's manor house, Jersey, 119, 547.
St. Peter's Port, Guernsey, 39; raised beach near, 280; niche in the church, 541.
St. Sampson, the first apostle of Guernsey, 317.
St. Sampson's (town), Guernsey, 39, 43; stone trade of, 503.
St. Saviour's Valley, Guernsey, 54.
Stalk-eyed crustaceans of the Channel Islands, 232.
Stalks of the cabbage, used for walking sticks and pea sticks in Jersey, 477.
Stanford, Mr. E. C., his paper on seaweeds referred to, 513.
Star-fishes and sea-urchins, 237.
'States,' origin of, 520; composition of, 526; Elective of Guernsey, 526; Deliberative of Guernsey, 527; of Jersey, 529.
Steamboat communication, 563.
Steatite, vein of, in Sark, 265.
Stephen, allegiance of the islands during his reign, 353.
Step-like appearance of horizontal veins, 256.
Stew, natural, with mixed sea and freshwater fish, in Jersey, 111; in Jersey and Guernsey, 213.
Stock, breeds of, 480.
Stone anchor used in Jersey, 511.
Stone cutters of Chaussey, 129.
Stone trade, 502.
Stonehenge not mentioned by the Roman writers, 423.
Storm-Petrel, Mr. Gallienne's remarks on, 207.
Strabo, his notice of the superstitions of the Channel Islands, 423.
Stratification, appearance of, in the granite at Jerbourg, 262.
Streams in Jersey, 92.
Street in Guernsey, view of, 459.
Submerged forests in Guernsey, 282.
Submerged peat explained, 283.
Subsidence, assumed as necessary to account for submerged peat, 285; no evidence of recent movements of this

kind in the Channel Islands, 305; documentary evidence of, doubted, 456.
Subsidiary courts of the islands, 533.
Subsoil, its nature, 460.
Suffrage, its nature in the islands, 520; its advantages, 522.
Summer flowers of Guernsey, 176.
Summer temperature of Guernsey, 137; of Jersey, 149.
Summary of the botany of the Channel Islands, of the zoology, 246; of the earliest history, 349.
Sunrise and sunset in the Channel Islands, 157.
Superstitions, early, of the Channel Islanders, 423.
Swinge, or 'Singe' passage, 32.
Syenite, rotten, used as gravel, 292. *See also* GRANITE.
Synapta, a curious radiated animal in the Channel Islands, 238.
Systems of veins in the metamorphic rock, 253, 259.

T.

Table land of Guernsey, how composed, 261.
Tabular statement of climate of Guernsey, 134.
Tailless cats found in Guernsey, 202.
Tas le, in Sark, 73; in Jersey, 109.
Telegraph cable in Alderney, 27; in Jersey, 108.
Temperature, average of, in Guernsey, 135; mean of Guernsey, Jersey, and Greenwich, compared, 148; high, at which the Channel Island rocks were formed, 252.
Tenby, caves at, compared with the Gouliot caves, 243.
Tenure of land, 539.
Teredinæ of the Channel Islands, a remarkable group, 218.
Terrible, Creux and Point, *see* DERRIBLE.
Terrien's commentary, the foundation of the Guernsey code, 531.
Thermometer and other instruments used in meteorological observations in Guernsey, 133.
Thielles, les, Guernsey, veins at, 261.
Tidal wave, its course in the Channel, 9.
Tinchebray, the battle of, decided the succession of the islands, 354.
Tintageux rock, Sark, 80.
Toad, large, of Jersey, 208.
Torgee Fort, Alderney, 20.
Tourville Fort, Alderney, 20, 23, 268.
Town church, Guernsey, 40.
Trade, commerce, and manufactures, 501.
Trap rock, its meaning, 255.
Trees and shrubs of the Channel Islands, 167; cultivated tender kinds in Guernsey, 492.
Trees rare in Alderney, 31.
Trenching plough used in Jersey and Guernsey, 477.
Tres Vaux, or Trévaux, Alderney, 20; veins near, 268.
Trial by jury in Jersey, 533.
Tubularia cave, Gouliots, Sark, 83.
Tubulariæ of Sark, list of, 241.
Tumuli occasionally raised over cromlechs, 416; found in the consecrated spots of the Druids, 419.
Tunicated molluscs of the Channel Islands, 219.
Tupper, Mr. F., his history of Guernsey referred to, 278.
Turbellariæ of the Channel Islands, 236.
Turbot of Guernsey, 212: trade in, 508.
Typical character of the climate of Guernsey, 132.

U.

Univalve shells of the Channel Islands 215, 216.

V.

Vale Castle, 53; red deer at, 202.
Vale Church Porch, 57; view of, 559.
Valleys of Alderney, 20; of Guernsey, 54; of Sark, 78; of Jersey, 117.
Vallon, the, Guernsey, 58.
Valnor, Guernsey, its garden, 56; view in, 491.
Vandal, meaning of the name, 324.
Vandal element of population of the Channel Islands doubtful, 350.
Variations of barometer in Guernsey, 141; Jersey, 150.
Variety of detail in the geology of the Channel Islands, 248.
Vases, group of ancient, 415.
Vazon Bay, Guernsey, 51; peat bogs at, 282.
Vegetable productions of the Channel Islands, 165; export and import of, 506.
Veins, of felspar in the cliffs, Alderney, 27; decomposing, at Herm, 63;

abundant in the islands, 255; intrusive, in Guernsey, 255; metaliferous in Sark, 263; soft, at the Creux, Sark, 265.
Ventilation, want of, in the narrow roads of Jersey, 473.
Verclut Point, Jersey, 100.
Vergée, the island measure of land—its value, 575.
Vernon family, lords of Sark, 406.
Veux Poitiers, France, inscribed menhirs at, 420.
Vicart, Jersey, 103.
'Vicomte,' the, sheriff of Jersey so named, 525.
Victoria College, Jersey, 95, 553.
Victoria Tower, Guernsey, 39.
Vine, cultivation of, in the islands, 485.
Vingtaines and Vingteniers of Jersey, 521.
Vingtonnier of Alderney, 521.
Visitors to Herm very numerous, 66.
Volcanic eruptive rocks only simulated in the islands, 256.
Volcano in Guernsey, record of, 456.
Vraic, its use and value to the farmer, 466; account of manufactures from it, 512.
Vraicking, custom of, 515.

W.

Wace, R., the earliest Channel Island poet, 434.
Walking sticks made of the cabbage stalks in Jersey, 477.
Wallich, Dr., on the Diatomaceæ, 195.
Warwick, Earl of, Governor of Guernsey under the Parliament, 376.
Water, abundant in Alderney, 31; found at the Casquets, 34; in Guernsey, 56; in Herm, 68; in Sark, 88; in Jersey, 118; in the principal island of the Chaussey group, 127; source and amount of supply in the islands generally, 470.
Water fowl very abundant in the Channel Islands, 205.
"Water lanes" of Guernsey, 55, 179.
Weapons, antient, found in the islands, 327.
Wearing, of rocks, examples of, 287; of granite for paving, 504.
Weeding fields by hand, the practice in the islands, 478.
Weeds, abundance of in the Channel Islands, 177.
Weights used in the islands, 573.
Wesley, Charles, and the Wesleyans in Guernsey, 404.
Whales occasionally visit the Channel Islands, 201.
White, Miss, her assistance acknowledged, 192.
Whiting pollack, large fish of this kind caught off Guernsey, 212.
Wild flowers, abundance of in Jersey and Guernsey, 175.
Wilkinson, Miss, her assistance acknowledged, 229.
William the Conqueror, his pedigree, 329; allegiance of the islands during his reign, 353.
William III., events on the accession of, 394; privileges confirmed by, 397.
Winchester, the islands transferred to the see of, 365.
Wind observatory at Guernsey, 144.
Winds prevailing in the Channel Islands, 142, 157.
Winter temperature of Guernsey, 137.
Wollaston, Mr. Vernon, his works referred to, 300.
Wolsey, Mr., his additions to the flora of Guernsey, 175.
Women, their orgies in the Channel Islands during the pagan period, 425; great excess of, over men, at St. Heliers, 579.
Wool, quantity allowed to the islands for making stockings after the Restoration, 394.
Working-Men's Associations, 556.
Wreck off the Douvres rocks, 131.
Wright, Mr. T., his English Vocabularies quoted, 433.

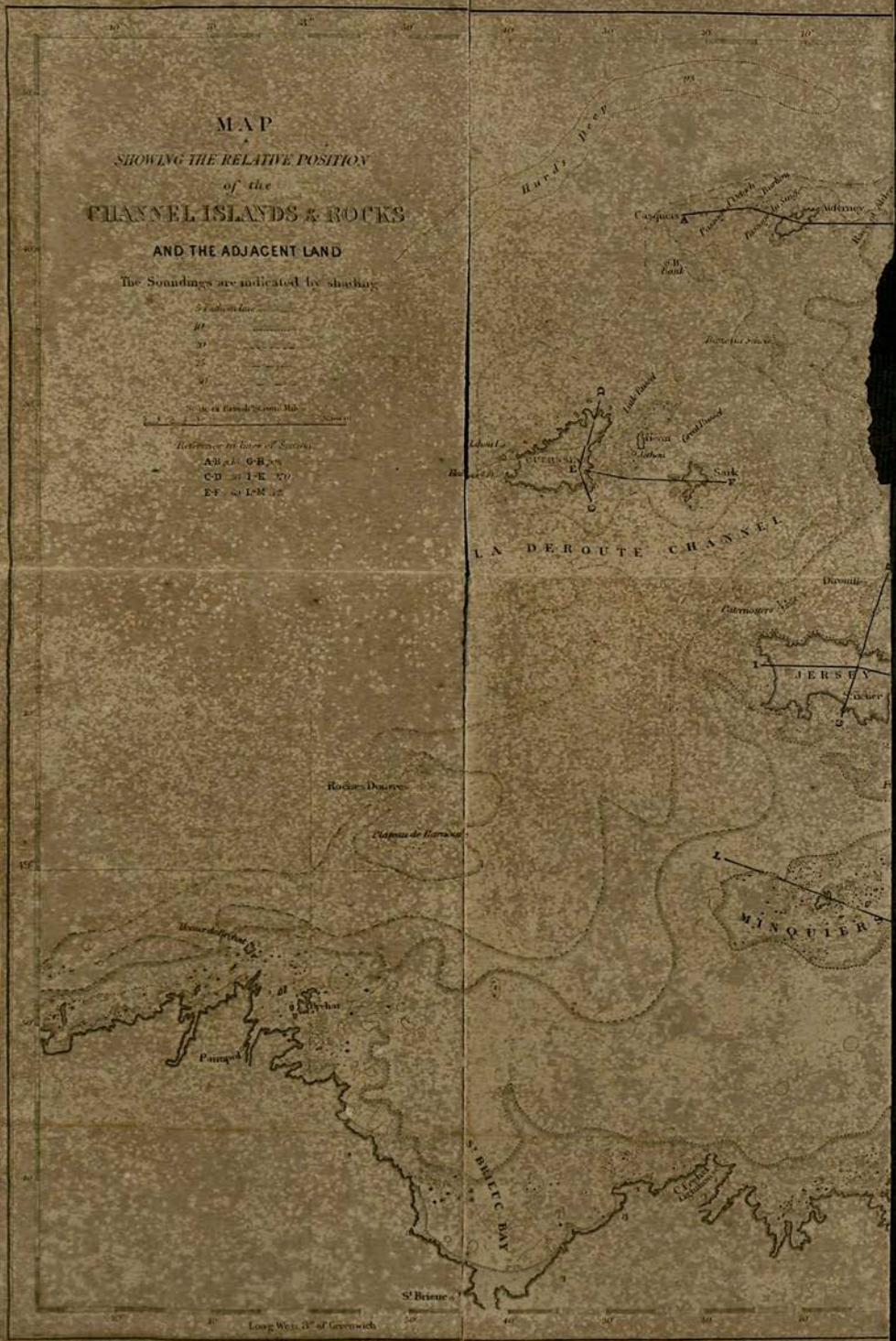
Y.

Yarrel, Mr., his Notes on Guernsey fish, 210.
Young Men's Christian Associations, 555.
Yuccas, growth of in the islands, 500.

Z.

Zoological interest of Sark, 73.
Zoology of the Channel Islands, 200.
Zoophytes of the Channel Islands, 240.
Zostera marina, abundant on the Chaussey Islands, 127; used economically in all the islands, 178.

Lewis and Son, Printers, Swan Buildings, Moorgate Street.


MAP
SHOWING THE RELATIVE POSITION
of the
CHANNEL ISLANDS & ROCKS
AND THE ADJACENT LAND
The Soundings are indicated by shading
Hurd's Deep
Casquets
Alderney
Sark
LA DEROUTE CHANNEL
Dirouille
JERSEY
Rocques Douvres
Plateau de Barnouf
MINQUIERS
Pairupol
St BRIEUC BAY
St Brieuc
Long West 3° of Greenwich

CHERBOURG
Granville
Mt St Michel Bay
St MALO
St Servan

Digitized with financial assistance from the
Government of Maharashtra
on 02 July, 2018